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Geophysical Review Upgrades West Arunta Niobium-REE Targets

Highlights

- **Southern Geoscience Consultants (SGC) re-processed magnetic data over the Stansmore Carbonatite Project in West Arunta region prospective for Niobium and Rare Earths (REE)**
- **The Stansmore carbonatite target confirmed as a prominent 700m long magnetic feature analogous to WA1's discoveries and Encounter's Worsley prospect**
- **Multiple new targets identified prospective for Niobium-REE mineralisation**
- **West Arunta quickly emerging as a significant rare earths and copper province, with the recent Niobium-REE mineralised carbonatite discovery by WA1 Resources[1] and Encounter Resources Worsley IOCG – REE discovery[2]**
- **Exploration work programs being planned for 2023 to include ground gravity, airborne geophysical surveys and drilling**

Lycaon Resources Limited (ASX: LYN) (the **Company** or **Lycaon**) is pleased to announce the completion of re-processing and review of historical magnetic data by Southern Geoscience Consultants (SGC) at the Stansmore REE carbonatite project, (**Stansmore Project**) in the West Arunta region of Western Australia (Figure 1, 2).

Mr Thomas Langley, Technical Director commented "The West Arunta is one of the last frontiers for major discoveries in Australia. The identification of rare earth mineralisation associated with carbonatite intrusions by WA1 and ENR nearby in their first ever drill programs, signifies the extremely prospective and underexplored nature of the West Arunta. These latest results by SGC support our strong belief that the Stansmore magnetic target has the potential to host Nb-REE mineralisation, and encouragingly identified multiple new targets adjacent to Stansmore."

"We are looking forward to a busy year in 2023, completing land access agreements with traditional owners allowing for exploration work to be completed as soon as possible. We hope to work in with other exploration companies active in the region with geophysical surveys and drilling programs."

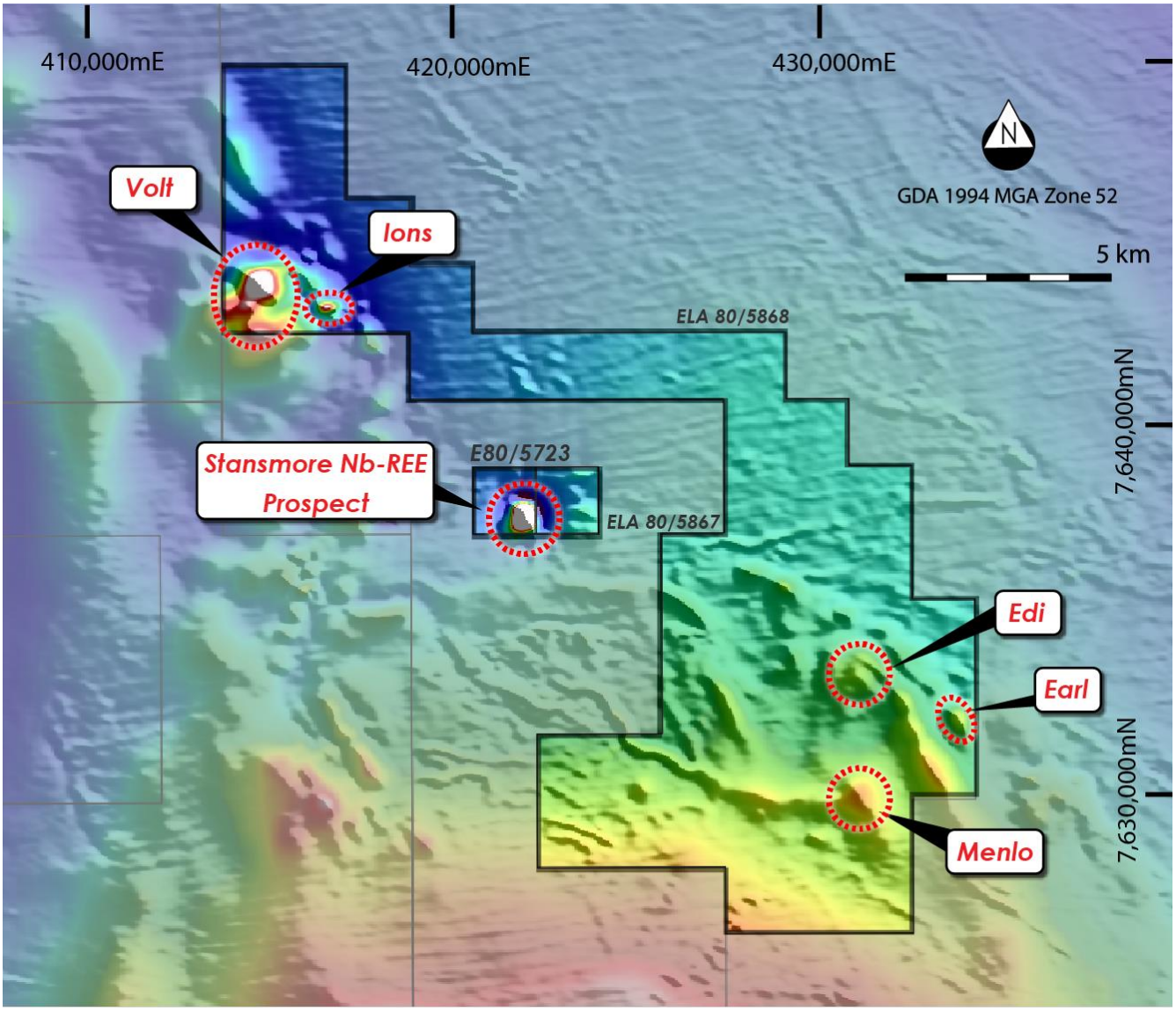

Figure 1. Reduced to Pole Magnetics (TMI grid) highlighting the prominent magnetic anomaly at Stansmore Prospect and other magnetic targets.

Carbonatite Overview

Carbonatites are a type of igneous rock defined by their composition being rich in carbonate minerals, typically calcite or dolomite. They often occur as plugs within alkali intrusive complexes, or as dykes, sills, breccias or veins. They are generally associated with major crustal scale features in rift-related tectonic settings. Carbonatites may be mineralised with rare earth elements, niobium, phosphorus, tantalum, uranium, thorium, copper, iron, titanium, vanadium, barium, fluorine and zirconium.

The identification of a mineralised carbonatite intrusion is a significant finding for the West Arunta region and given the presence of other intrusive bodies within the region enhances the potential for further discoveries with future exploration efforts.

Carbonatite deposits are an important source of REE and niobium production. This includes the world's largest REE mine, Bayan Oho in Inner Mongolia, Lynas Rare Earths' Mt Weld deposit and the world's three major operating niobium mines.

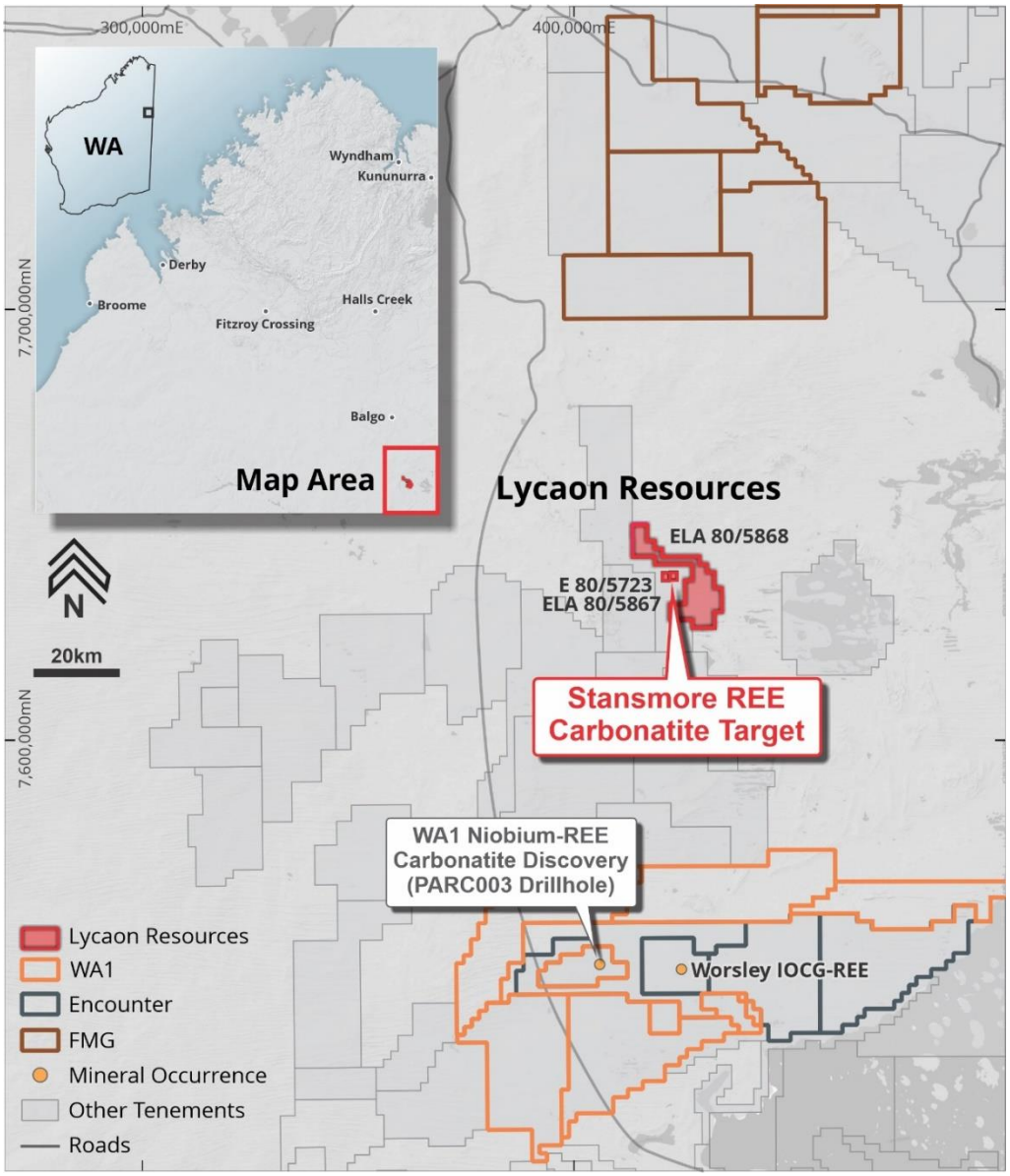

Figure 2. Stansmore Nb-REE Carbonatite ± IOCG Project Location Map

Niobium Overview [4]

Niobium (Nb) is a ductile refractory metal that is highly resistant to heat and wear. Like tantalum, it is resistant to corrosion owing to the formation of a surface oxide layer.

Approximately 90% of niobium use is attributed to the steel industry, predominantly as a micro alloy with iron. The addition of small, relatively cheap, amounts of niobium (much less than 1%) significantly increases the strength and decreases the weight of steel products. This results in more economic, beneficial products for use in the construction industry, in gas and oil pipelines, and in the automotive industry where weight savings result in increased performance and fuel reduction.

Niobium, along with other refractory elements such as tantalum, is also used in nickel and nickeliron superalloys, particularly for applications requiring strength and heat resistance. Uses for such superalloys include turbine blades in jet engines within the aeronautic industry, and gas turbines in the energy industry.

Niobium becomes a superconductor at very low temperatures. When alloyed with titanium (NbTi) or tin (Nb3Sn), it produces the superconducting magnets used in magnetic resonance imaging

(MRI) scanners, nuclear magnetic resonance (NMR) equipment and particle accelerators such as the Large Hadron Collider at CERN (The European Organization for Nuclear Research).

Niobium is one of a suite of commodities identified by the Australian Government as critical minerals, i.e., minerals (or elements) considered vital for the well-being of the world's economies, yet whose supply may be at risk of disruption. Niobium is essential for advanced technology.

-ENDS-

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

[1] ASX:WA1, West Arunta Project Discovery of Niobium-REE Mineralised Carbonatite System, 26 October 2022

[2] ASX:ENR, Airborne Survey at Aileron Cu-REE Project – West Arunta, 27 October 2022

[3] Fraser, Geoff & Huston, David & Gibson, George & N.L., Neumann & Maidment, D.W. & Kositcin, Natalie & Skirrow, Roger & Jaireth, Subhash & Lyons, Patrick & C., Carson & Cutten, Huntly & A., Lambeck. (2007). Geodynamic and metallogenic evolution of Proterozoic Australia from 1870-1550 Ma: a discussion

[4] Geoscience Australia, https://www.ga.gov.au/scientific-topics/minerals/mineral-resources-and-advice/australian-resource-reviews/niobium

For additional information please visit our website at www.lycaonresources.com

Competent Persons Statement - Geology

The information in this document that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr. Thomas Langley who is a member of the Australian Institute of Geoscientists (MAIG) and a member of the Australasian Institute of Mining and Metallurgy (MAusIMM). Mr. Thomas Langley is a full-time employee of Lycaon Resources Limited, and is a shareholder, however Mr. Thomas Langley believes this shareholding does not create a conflict of interest, and Mr. Langley has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Langley consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

Competent Persons Statement – Geophysics

The information in this release that relates to Geophysical Results and Interpretations is based on information compiled by Russell Mortimer, Consultant Geophysicist at Southern Geoscience Consultants. Russell Mortimer is a Member of the Australasian Institute of Geoscientists (AIG) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Russell Mortimer consents to the inclusion in the release of the matters based on this information in the form and context in which it appears.

Forward-Looking Statements

This announcement contains "forward-looking statements." All statements other than those of historical facts included in this announcement are forward-looking statements. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and based upon information currently available to the company and believed to have a reasonable basis. Although the company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees

of future performance and no assurance can be given that these expectations will prove to be correct as actual results or developments may differ materially from those projected in the forward-looking statements.
Forward-looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to, copper, gold, and other metals price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks and governmental regulation and judicial outcomes. Readers are cautioned not to place undue reliance on forward-looking statements due to the inherent uncertainty thereof. The forward-looking statements contain in this press release are made as of the date of this press release and except as may otherwise be required pursuant to applicable laws, the Company does not undertake any obligation to release publicly any revisions to any "forward-looking statement".

Appendix 1. JORC Code, 2012 Edition – Table 1 report template

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.*	The aircraft used for the survey was a Cessna 210, specifically modified for geophysical surveys with a tail boom and various other survey configuration modifications. The magnetic geophysical sampling was completed via a stinger mounted G-823A caesium vapour magnetometer. Nominal traverse separation of 200m, with an average ground clearance of 50m. Sampling rate was at approximately 20Hz. Base station was a GSM-19 Overhauser & Scintrex EnviMag proton precession unit sampling at 1 Hz intervals. Elevation data was derived from SRTM (Shuttle Radar Topographic Mission) and has a resolution of 1 arc-second (approx. 30 metres).
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 new drilling is being reported in this announcement.
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 new drilling is being reported in this announcement.

Criteria	JORC Code explanation	Commentary
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 new drilling is being reported in this announcement.
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 new drilling is being reported in this announcement.
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.*	No new drilling is being reported in this announcement.
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.*	No new drilling is being reported in this announcement.
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.*	Final products are delivered in a MapInfo-compatible format using the GDA94 datum and MGA zone 52 projection.

Criteria	JORC Code explanation	Commentary
	• *Quality and adequacy of topographic control.*	
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.*	Line spacing of the airborne survey is 200m which is considered appropriate for the level of geological and structural interpretation that was completed.
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.*	No new drilling is being reported in this announcement.
Sample security	*The measures taken to ensure sample security.*	No new drilling is being reported in this announcement.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	No new drilling is being reported in this announcement.

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.*	Lycaon Resources Ltd entered into a conditional agreement to acquire one exploration licence E80/5723 ,in the West Arunta Region of Western Australia, called the Stansmore Project. • The Stansmore Project consists of 1 granted Exploration License (E80/5723). • The tenement is 100% owned by Thomas Edward Langley. • Lycaon subsidiary company West Arunta Resources Pty Ltd applied for 2 pending exploration licences ELA 80/5867 and ELA 80/5868 • The Stansmore Project (E80/5723, ELA80/5867 and ELA80/5868) covers 1 Native Title Determination the Parna Ngururrpa Aboriginal Corporation (WAD357/2006)
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Stansmore Project has had limited historic work completed within the Project area with the broader area having limited exploration focussed on gold and diamonds. • Significant previous explorer of the Project area included BHP Minerals Limited. Only 6 shallow RAB

Criteria	JORC Code explanation	Commentary
		drillholes were completed (WAMEX Report A12302)
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Stansmore Project is located in the West Arunta Orogen, representing the western-most part of the Arunta Orogen which straddle the Western Australia–Northern Territory border. • Outcrop in the area is generally poor, with bedrock largely covered by Tertiary sand dunes and spinifex country of the Gibson Desert. As a results, geological studies in the area have been limited, and a broader understanding of the geological setting is interpreted from early mapping as presented on the MacDonald (Wells, 1968) and Webb (Blake, 1977 (First Edition) and Spaggiari et al., 2016 (Second Edition)) 1:250k scale geological map sheets. • The West Arunta Orogen is considered to be the portion of the Arunta Orogen commencing at, and west of, the Western Australia-Northern Territory border. It is characterised by the dominant west-north-west trending Central Australian Suture, which defines the boundary between the Aileron Province to the north and the Warumpi Province to the south. • The broader Arunta Orogen itself includes both basement and overlying basin sequences, with complex stratigraphic, structural, and metamorphic history extending from the Paleoproterozoic to the Palezoic (Joly et al., 2013).
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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *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 new drilling is being reported in this announcement.
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*	No new drilling is being reported in this announcement.

Criteria	JORC Code explanation	Commentary
	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.*	
Relationship between mineralisation widths and intercept 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').*	No new drilling is being reported in this announcement.
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.*	No new drilling is being reported in this announcement.
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.*	No new drilling is being reported in this announcement.
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 material data and information has been included in the body of this ASX announcement.
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,*	• Desktop review on tenement; • Acquire public available information; • Exploration targeting and prospect ranking; • Reconnaissance trip to determine land access; • Field validation of geological concepts; • Geological mapping and surface sampling;

Criteria	JORC Code explanation	Commentary
	including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• Geochemical surveys of rock, soil, sediments; • Airborne geophysical surveys; • Ground geophysical surveys; • Aboriginal heritage clearance surveys; and • Drill testing