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## West Arunta 2024 Drilling

### Highlights:

- **West Arunta Stansmore Project land access progressing with drilling expected to commence once heritage surveys are completed in early 2024**
- **Southern Geoscience Consultants (SGC) evaluated geophysical targets ahead of drilling program at the West Arunta Stansmore Niobium-REE Project**
- **100% owned West Arunta Stansmore Niobium-REE Project granted tenure extends over 173km<sup>2</sup>**
- **WA1 Resources continues to deliver exceptional Niobium results<sup>1</sup> ~90km south of Stansmore Project, including 30m at 4.7% Nb<sub>2</sub>O<sub>5</sub>, demonstrating the world class discovery potential of the West Arunta region**

Thomas Langley, Technical Director commented "Our near-term focus will now turn to organising heritage surveys ahead of drilling in the next few months. The West Arunta continues to demonstrate the world class discovery potential with WA1 Resources' tier one Luni discovery. Pending approvals, drilling is planned to commence in Q2 2024."

"We are extremely pleased to have finalised the land access agreement with the Parna Ngururra traditional owners. The positive relationship built to date with all stakeholders bodes well for our future exploration efforts at Stansmore. I would like to thank the Parna Ngururra traditional owners for their support and look forward to working with them on country as we complete heritage surveys ahead of drilling."

"The West Arunta is one of the last frontiers for major critical mineral and copper-gold (IOCG) discoveries in Australia. The identification of Niobium and Rare Earth mineralisation associated with carbonatite intrusions by WA1 Resources and Encounter Resources nearby in their first ever drill programs signifies the extremely prospective and underexplored nature of the West Arunta."

**Lycaon Resources Ltd** (ASX:LYN) (**Lycaon** or the **Company**) is pleased to announce an update on its exploration program at the Stansmore Project (**Stansmore**) in the West Arunta region of Western Australia. Southern Geoscience Consultants (SGC) has completed 3D geophysical inversion modelling of the publicly available magnetic data to assist with targeting of drillholes ahead of a maiden drill program. Previous shallow aircore drilling by BHP Minerals in 1982 recorded shallow sand cover of approximately ~5-10m depth.

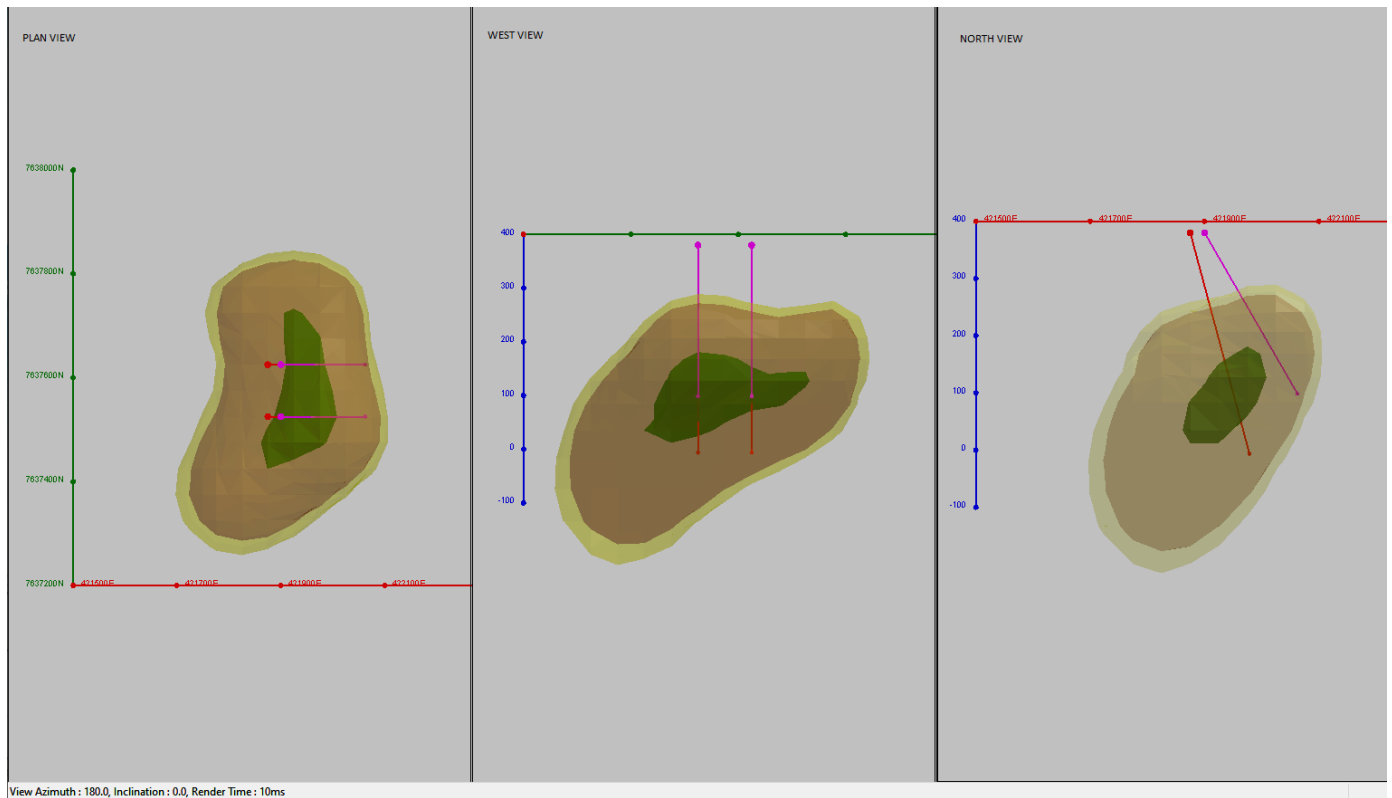


Figure 1. Magnetic Inversion (green shell 0.15SI) with proposed drill traces (red and pink)

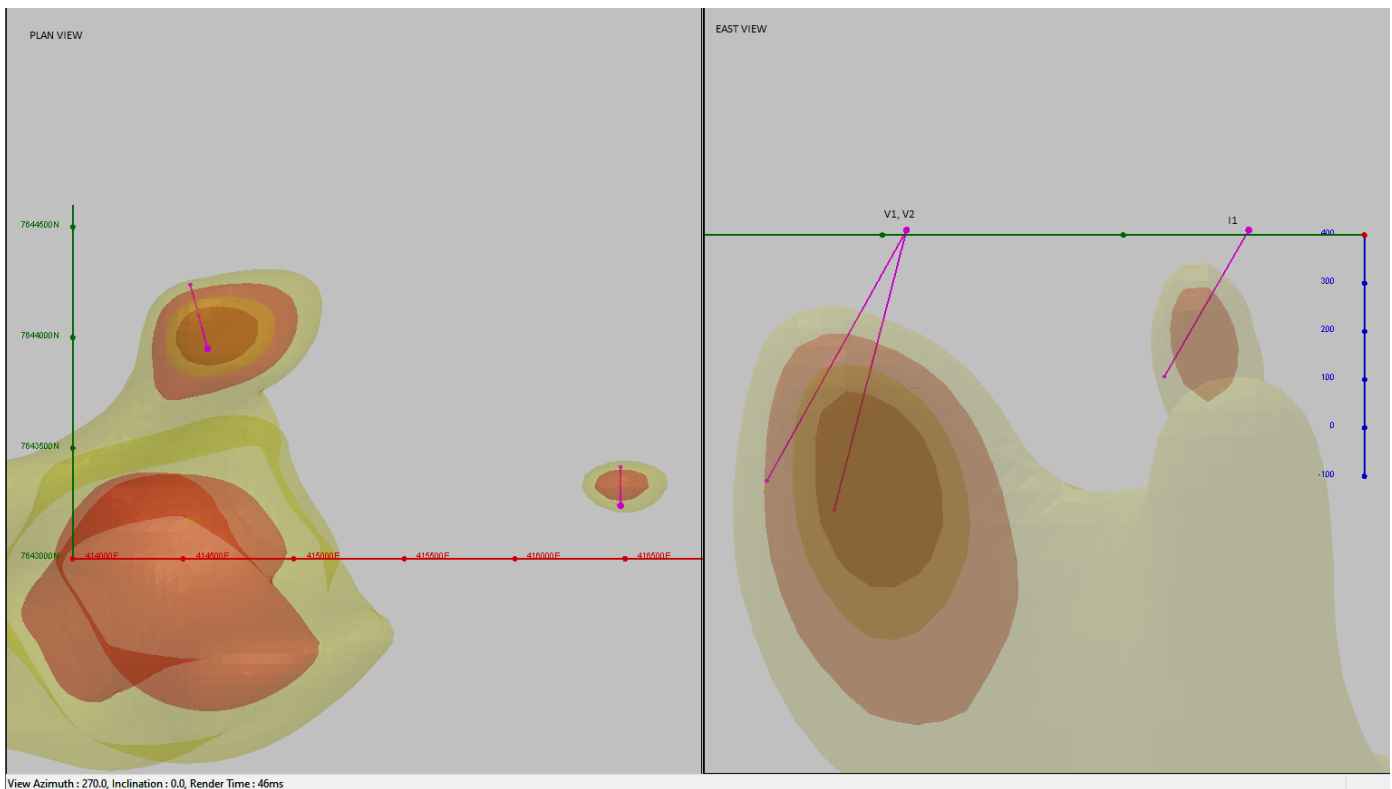


Figure 2. Magnetic Inversion (brown shell 0.075SI, red shell 0.025SI) with proposed drill traces (red and pink)

### Stansmore – West Arunta Project ( $Nb/REE \pm PGE$ )

The Company is currently working through the approvals processes required to enable heritage surveys and drilling to be undertaken as soon as possible. During the previous quarter the Company executed the land access agreement with the Parna Ngururpa traditional owners at the West

Arunta Stansmore Niobium-REE Project at an on-country meeting held in Balgo, Western Australia. The Company is aiming to complete heritage surveys and a diamond drilling program in the next few months, subject to the approvals processes being finalised.

The Stansmore carbonatite target consists of a regionally prominent 700m long magnetic feature analogous to WA1's discoveries and Encounter's Worsley prospect. Recent discoveries by WA1 Resources and Encounter Resources have demonstrated the potential for the West Arunta region to host significant REE and IOCG type mineralisation systems, Figure 4. Previous shallow aircore drilling by BHP Minerals in 1982 recorded shallow cover of approximately ~5-10m depth. Southern Geoscience Consultants (SGC) re-processed magnetic data over the Stansmore Carbonatite Project which highlighted multiple new targets identified prospective for Niobium-REE mineralisation, Figure 3. Southern Geoscience has now completed further geophysical review by creating a 3D inversion of the magnetic data to assist with targeting of drillholes ahead of a maiden drill program. 3D inversion efforts utilised the best available public domain magnetic data (circa 2010), 200m line spacing survey data (north-south lines) with a nominal terrain clearance of ~50m.

The Stansmore magnetic anomaly and associated 3D inversion results defined the source as being moderately magnetic, with an estimated magnetic susceptibility of  $>0.15\text{SI}$  units. The Volt magnetic anomaly and nearby Ions magnetic anomaly and associated 3D inversion findings highlighted the sources as being of low to moderate magnetic susceptibility ( $0.025\text{-}0.075\text{SI}$  units).

Alkaline systems are key drivers in the formation of IOCG and carbonatite-hosted REE deposits, with the region seeing a renewed exploration focus for these deposit types. Carbonatite deposits are an important source of REE and niobium production. This includes the world's largest REE mine, Bayan Obo in Inner Mongolia, Lynas Rare Earths' Mt Weld deposit and the world's three major operating niobium mines. Niobium is one of a suite of commodities identified by the Australian Government as critical minerals, being minerals (or elements) considered vital for the well-being of the world's economies, yet whose supply may be at risk of disruption.

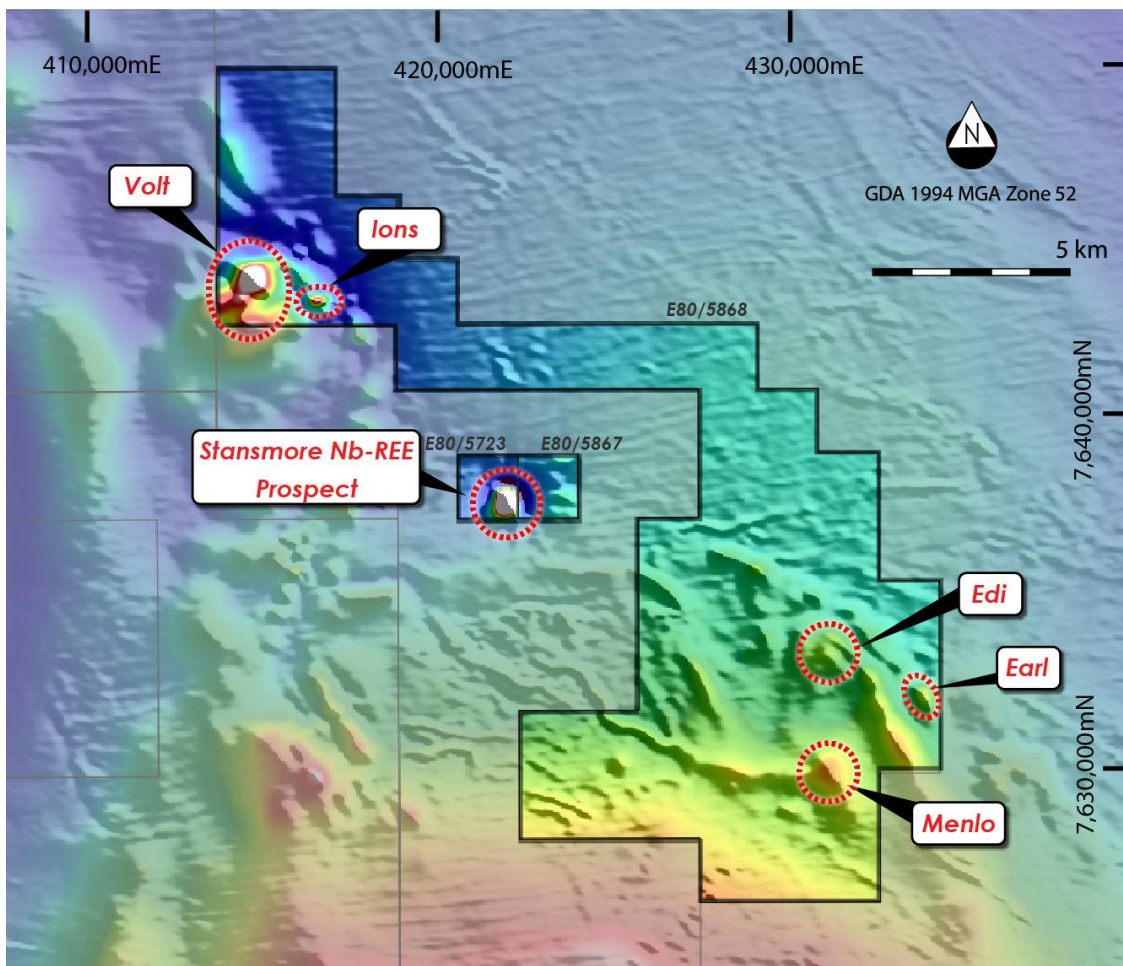


Figure 3. Reduced to Pole Magnetics (TMI grid) highlighting the prominent magnetic anomaly at Stansmore Prospect and other magnetic targets.

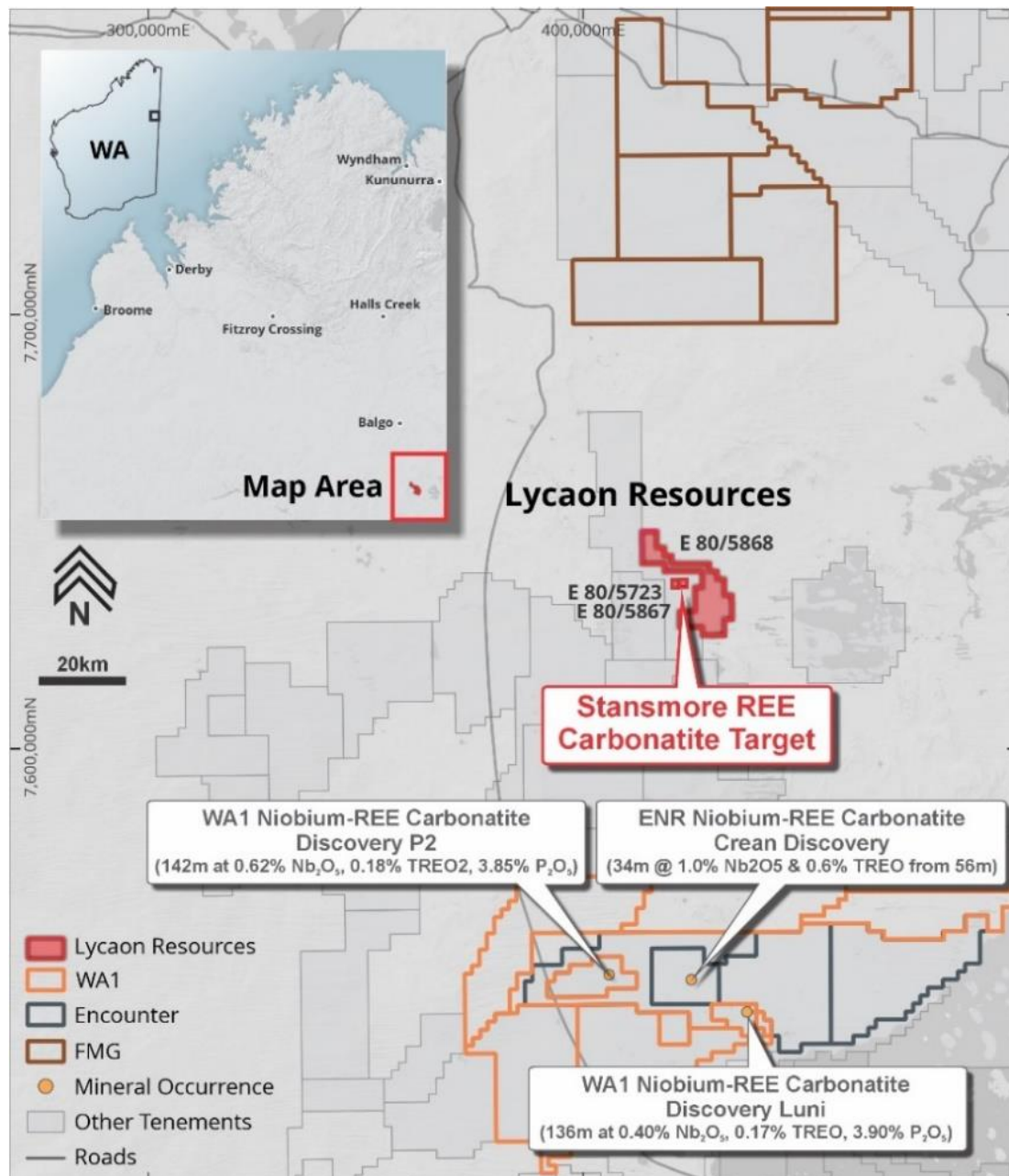


Figure 4. Stansmore Nb-REE Carbonatite ± IOCG Project Location Map

Table 1. Proposed drillhole locations at Stansmore Project

Drillhole ID	Easting (MGA Z52)	Northing (MGA Z52)	Depth	Dip	Azimuth
ST001	421875	7637525	400	-75	90
ST002	421900	7637525	325	-60	90
ST003	421875	7637625	400	-75	90
ST004	421900	7637625	325	-60	90
V001	414610	7643950	350	-75	350
V002	414610	7643950	450	-75	350
I001	416480	7643240	350	-60	0
Total Metres			2600		

- ENDS-

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

### **Thomas Langley - Technical Director**

For additional information please visit our website at [www.lycaonresources.com](http://www.lycaonresources.com)

<sup>1</sup> ASX:WA1, WEST ARUNTA PROJECT HIGH-GRADE INFILL AT LUNI, 8 November 2023

### **Cautionary Statement**

*This announcement and information, opinions or conclusions expressed in the course of this announcement contains forecasts and forward-looking information. Such forecasts, projections and information are not a guarantee of future performance, involve unknown risks and uncertainties. Actual results and developments will almost certainly differ materially from those expressed or implied. There are a number of risks, both specific to Lycaon, and of a general nature which may affect the future operating and financial performance of Lycaon, and the value of an investment in Lycaon including and not limited to title risk, renewal risk, economic conditions, stock market fluctuations, commodity demand and price movements, timing of access to infrastructure, timing of environmental approvals, regulatory risks, operational risks, reliance on key personnel, reserve estimations, native title risks, cultural heritage risks, foreign currency fluctuations, and mining development, construction and commissioning risk.*

### **Competent Person's Statement**

*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.*

*The Company confirms that it is not aware of any new information or data that materially affects the information in the original reports, and that the forma and context in which the Competent Person's findings are presented have not been materially modified from the original reports.*

## 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	<ul style="list-style-type: none"> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<p>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.</p> <p>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 &amp; Scintrex EnviMag proton precession unit sampling at 1 Hz intervals.</p> <p>Elevation data was derived from SRTM (Shuttle Radar Topographic Mission) and has a resolution of 1 arc-second (approx. 30 metres).</p>
Drilling techniques	<ul style="list-style-type: none"> <li>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).</li> </ul>	No new drilling is being reported in this announcement.
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	No new drilling is being reported in this announcement.
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	No new drilling is being reported in this announcement.
Sub-sampling	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> </ul>	No new drilling is being reported in this announcement.

<b>Criteria</b>	<b>JORC Code explanation</b>	<b>Commentary</b>
<i>techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	No new drilling is being reported in this announcement.
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	No new drilling is being reported in this announcement.
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	Final products are delivered in a MapInfo-compatible format using the GDA94 datum and MGA zone 52 projection.
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	Line spacing of the airborne survey is 200m which is considered appropriate for the level of geological and structural interpretation that was completed.
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is</i></li> </ul>	No new drilling is being reported in this announcement.



Criteria	JORC Code explanation	Commentary
	<i>considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	
Sample security	<i>The measures taken to ensure sample security.</i>	No new drilling is being reported in this announcement.
Audits or reviews	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	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	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> </ul>	<p>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.</p> <ul style="list-style-type: none"> <li>The Stansmore Project consists of 1 granted Exploration License (E80/5723).</li> <li>The tenement is 100% owned by Thomas Edward Langley.</li> <li>Lycaon subsidiary company West Arunta Resources Pty Ltd applied for 2 pending exploration licences ELA 80/5867 and ELA 80/5868</li> <li>The Stansmore Project (E80/5723, ELA80/5867 and ELA80/5868) covers 1 Native Title Determination the Parna Ngururra Aboriginal Corporation (WAD357/2006)</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>Significant previous explorer of the Project area included BHP Minerals Limited. Only 6 shallow RAB drillholes were completed (WAMEX Report A12302)</li> </ul>
Geology	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>Outcrop in the area is generally poor, with bedrock largely covered by Tertiary sand dunes and spinifex country of the Gibson Desert.</li> </ul> <p>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.</p> <ul style="list-style-type: none"> <li>The West Arunta Orogen is considered to be the</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>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.</p> <ul style="list-style-type: none"> <li>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 Paleozoic (Joly et al., 2013).</li> </ul>
<p><i>Drill hole Information</i></p>	<ul style="list-style-type: none"> <li>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: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<p>No new drilling is being reported in this announcement.</p>
<p><i>Data aggregation methods</i></p>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<p>No new drilling is being reported in this announcement.</p>
<p><i>Relationship between mineralisation widths and intercept</i></p>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the</li> </ul>	<p>No new drilling is being reported in this announcement.</p>

Criteria	JORC Code explanation	Commentary
<i>lengths</i>	<p><i>drill hole angle is known, its nature should be reported.</i></p> <ul style="list-style-type: none"> <li><i>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').</i></li> </ul>	
<i>Diagrams</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	No new drilling is being reported in this announcement.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	No new drilling is being reported in this announcement.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	All material data and information has been included in the body of this ASX announcement.
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Desktop review on tenement;</li> <li>• Acquire public available information;</li> <li>• Exploration targeting and prospect ranking;</li> <li>• Reconnaissance trip to determine land access;</li> <li>• Field validation of geological concepts;</li> <li>• Geological mapping and surface sampling;</li> <li>• Geochemical surveys of rock, soil, sediments;</li> <li>• Airborne geophysical surveys;</li> <li>• Ground geophysical surveys;</li> <li>• Aboriginal heritage clearance surveys; and</li> <li>• Drill testing</li> </ul>