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31 July 2023

West Arunta Niobium-REE Tenements Granted

Highlights

- **100% owned West Arunta Project granted tenure now extends over 173km², following grant of E80/5867 and E80/5868**
- **Granted tenure status to assist land access negotiations with Parna Ngururrpa Aboriginal Corporation**
- **Southern Geoscience Consultants (SGC) re-processed magnetic data over the Stansmore Carbonatite Project highlights multiple new targets identified prospective for Niobium-REE mineralisation, Figure 1**
- **West Arunta emerging as a significant rare earths and copper province, with the recent Niobium-REE mineralised carbonatite discovery by WA1 Resources¹ and Encounter Resources²**

Lycaon Resources Limited (ASX: LYN) (the **Company** or **Lycaon**) is pleased to announce two tenement applications E80/5867 and E80/5868 held by West Arunta Resources Pty Ltd, a 100% owned subsidiary of Lycaon Resources, have been granted by the Department of Mines Industry Regulation and Safety (DMIRS). Granted tenure at the Stansmore Project (**Stansmore**) now consists of approximately 173km² in the West Arunta region of Western Australia (Figure 1, 2).

Land access negotiations are proceeding well with Lycaon agreeing to key commercial terms of the land access agreement to allow for consideration and endorsement by Parna Ngururrpa Board of Directors in October this year.

Mr Thomas Langley, Technical Director commented "It is pleasing to have all our West Arunta tenement applications proceed to granted status, another positive step towards exploration programs commencing early next year. 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. Furthermore, the 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."

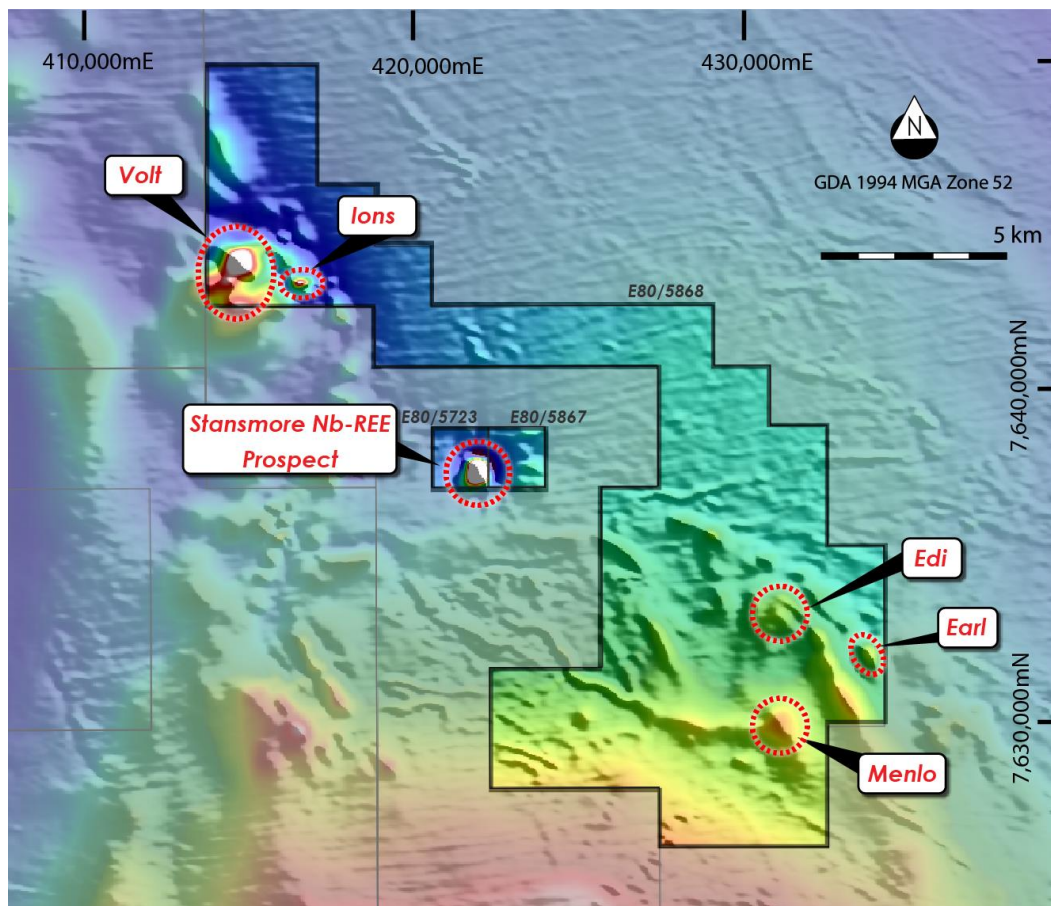


Figure 1. Reduced to Pole Magnetics (TMI grid) highlighting the prominent magnetic anomaly at Stansmore Prospect and other magnetic targets.

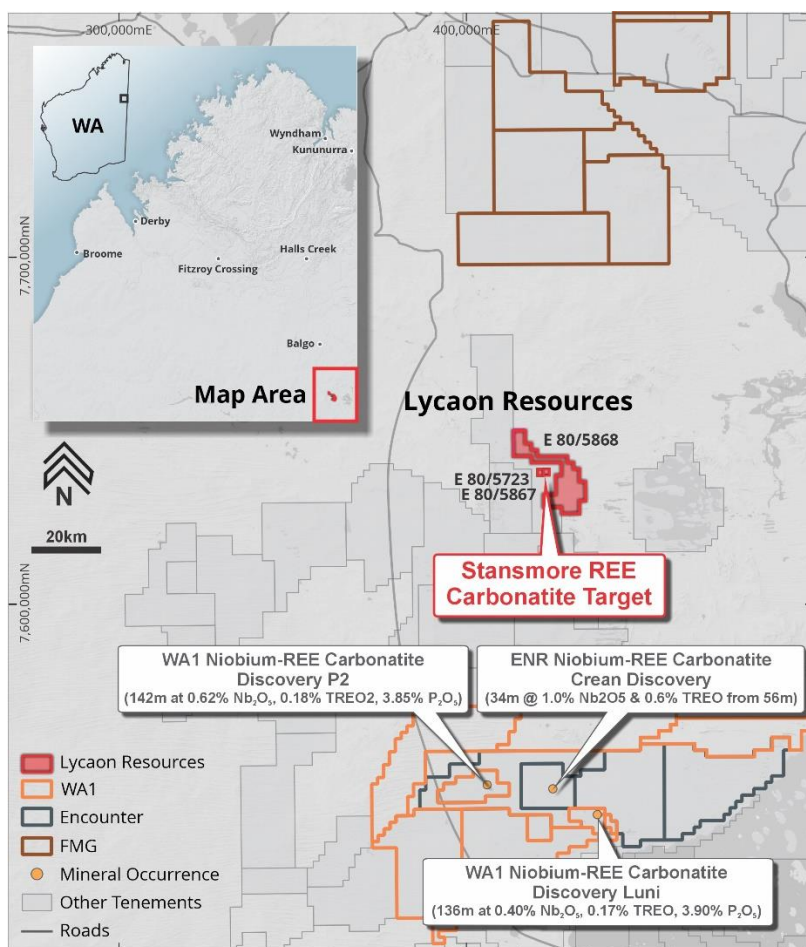


Figure 2. Stansmore Nb-REE Carbonatite ± IOCG Project Location Map

About Niobium²

Niobium Uses

Niobium (Nb) is a ductile refractory metal that is highly resistant to heat and wear. Approximately 90% of niobium use is attributed to the steel industry, predominantly as a micro alloy with iron to make steel lighter and stronger. Applications of niobium in battery technology are evolving with potential to revolutionise the electric vehicle market.

Lighter, stronger and corrosion resistant steel

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 (e.g., beams in buildings, bridges, oil rigs, railway tracks), in gas and oil pipelines, and in the automotive industry where weight savings result in increased performance and fuel reduction.

The addition of approximately 300g of niobium can reduce the weight of steel in a mid-size car by 200kg which increases fuel efficiency by 5%.

Battery Technology Development

The incorporation of niobium into various battery components has shown the potential to enhance performance across a range of attributes including:

- ***Super-fast charging (<6 minutes) and discharging rates;***
- ***Prolonging the lifespan of battery-powered products (more charging cycles); and***
- ***Improved safety (lower fire risk).***

CBMM, the world's largest niobium producer, has a partnership with Toshiba to advance battery technology incorporating niobium and commercialise the next generation of batteries.

Niobium Supply

Niobium production is heavily concentrated in Brazil, primarily under the control of CBMM. Brazil accounts for approximately 95% of global niobium supply from two producers: CBMM and China Molybdenum. Magris Performance Materials (MPM), the world's only other producer, operates the Niobec niobium mine in Canada.

Niobium is a Critical Mineral

Niobium is essential for advanced technology and is identified by the Australian, US and Japanese Governments and the European Union as a critical mineral, 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 Product Pricing

Niobium production is primarily sold in the form of ferroniobium (FeNb) to the steel industry. The average price of ferroniobium is currently trading at US\$29,000/t. In 2021, global niobium production reached approximately 110kt of Ferroniobium (FeNb) equivalent material and it is projected to reach as high as 130kt in 2023.

-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, Thick, high-grade Niobium-REE at Aileron - West Arunta, 25 July 2023

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 (AIG) 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 contained 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.
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	If core, whether cut or sawn and whether quarter, half or all core taken.	No new drilling is being reported in this announcement.

Criteria	JORC Code explanation	Commentary
techniques and sample preparation	• 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.	
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. • Quality and adequacy of topographic control.	Final products are delivered in a MapInfo-compatible format using the GDA94 datum and MGA zone 52 projection.
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	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	<i>The results of any audits or reviews of sampling techniques and data.</i>	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	<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> <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>	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 Ngururpa Aboriginal Corporation (WAD357/2006)
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	- 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 drillholes were completed (WAMEX Report A12302)
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	- 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

Criteria	JORC Code explanation	Commentary
		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 Paleozoic (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: - 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 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 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 new drilling is being reported in this announcement.
Relationship between mineralisation widths and intercept	- These relationships are particularly important in the reporting of Exploration Results. - If the geometry of the mineralisation with respect to the	No new drilling is being reported in this announcement.

Criteria	JORC Code explanation	Commentary
<i>lengths</i>	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').	
<i>Diagrams</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.	No new drilling is being reported in this announcement.
<i>Balanced reporting</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.	No new drilling is being reported in this announcement.
<i>Other substantive exploration data</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.	All material data and information has been included in the body of this ASX announcement.
<i>Further work</i>	- 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.	- 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; - Geochemical surveys of rock, soil, sediments; - Airborne geophysical surveys; - Ground geophysical surveys; - Aboriginal heritage clearance surveys; and - Drill testing