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15 November 2022

Agreement to Acquire Highly Prospective West Arunta Niobium-REE Carbonatite Project

Highlights

- **Lycaon enters into binding Heads of Agreement to acquire Stansmore Carbonatite Project in West Arunta region prospective for Niobium and Rare Earths (REE)**
- **West Arunta quickly becoming 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]**
- **The Stansmore carbonatite target consists of a regionally prominent 700m long magnetic feature analogous to WA1's discovery and Encounter's Worsley prospect**
- **Located at the juncture of two major regional faults and offset from the major North Australian Craton Boundary – conducive for the emplacement of deep-seated intrusions like REE carbonatites and IOCG mineral systems**
- **Carbonatites are important sources of niobium and REE's and host all three of the world's operating niobium mines and Lynas Rare Earths Limited's Mt Weld deposit**
- **Potential for Iron-Oxide-Copper-Gold (IOCG) mineralisation, supported by geochronology completed by the GSWA at ENR's Worsley prospect**

Lycaon Resources Limited (ASX: LYN) (the **Company** or **Lycaon**) is pleased to announce that via its wholly owned subsidiary, West Arunta Resources Pty Ltd (**WAR**), it has entered into a conditional binding Heads of Agreement to acquire the Stansmore REE carbonatite project, exploration licence E80/5723 (**Stansmore Project**) in the West Arunta region of Western Australia (Figure 1) (**Acquisition**).

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 (Figures 2 and 3). Alkaline systems are key drivers in the formation of IOCG and carbonatite-hosted REE deposits, with the region seeing a renewed exploration focus these deposit types.

Mr Thomas Langley, Technical Director commented "The identification of a mineralised carbonatite

intrusion by WA1 is a significant development for the West Arunta region and given the Stansmore prospect shares many similarities to WA1 and Encounter's discoveries (Figures 3, 4 and 5) this is an exciting opportunity for Lycaon to explore a similar setting for rare earth carbonatites and IOCG type deposits. The historical drilling by BHP in 1982 intersected intrusives and strong carbonate alteration that may be related to REE-carbonatite mineralisation (Appendices 1 and 2). Importantly, the 6 shallow RAB holes drilled at Stansmore by BHP to a max depth of 12m, recorded the prospective geology is under very shallow cover of ~ 5 - 10m, which further enhances discovery potential. BHP were originally exploring for diamonds and walked away with no further exploration work completed since 1982."

"In light of recent discoveries by WA1 and ENR, the Stansmore magnetic target represents a remarkable opportunity to explore for REE's and IOCG mineralisation in the emerging West Arunta region. I look forward to being part of the exciting developments in the West Arunta region exploring for critical minerals Niobium and REE's."

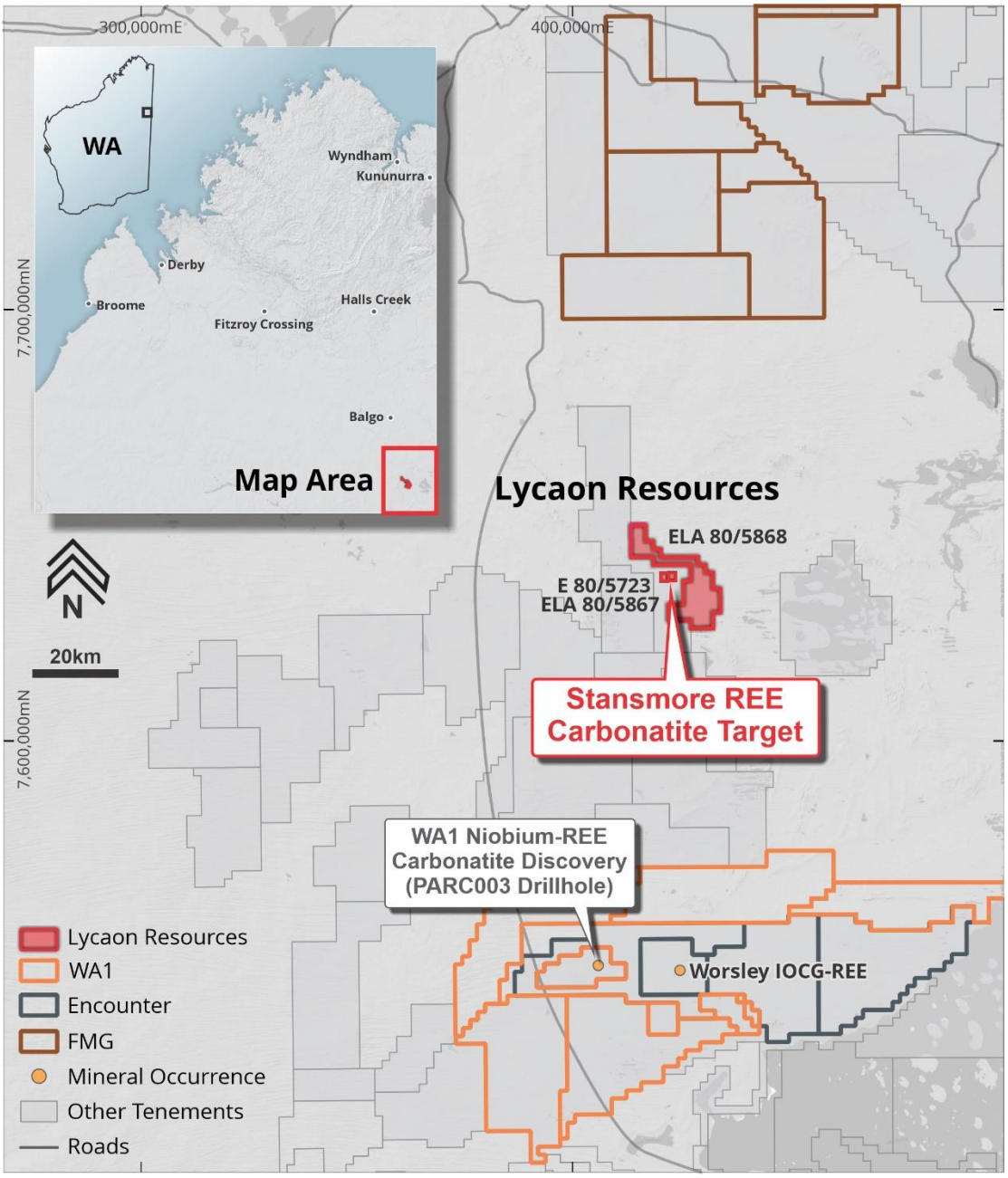

Figure 1. Stansmore REE Carbonatite – IOCG Project Location Map.

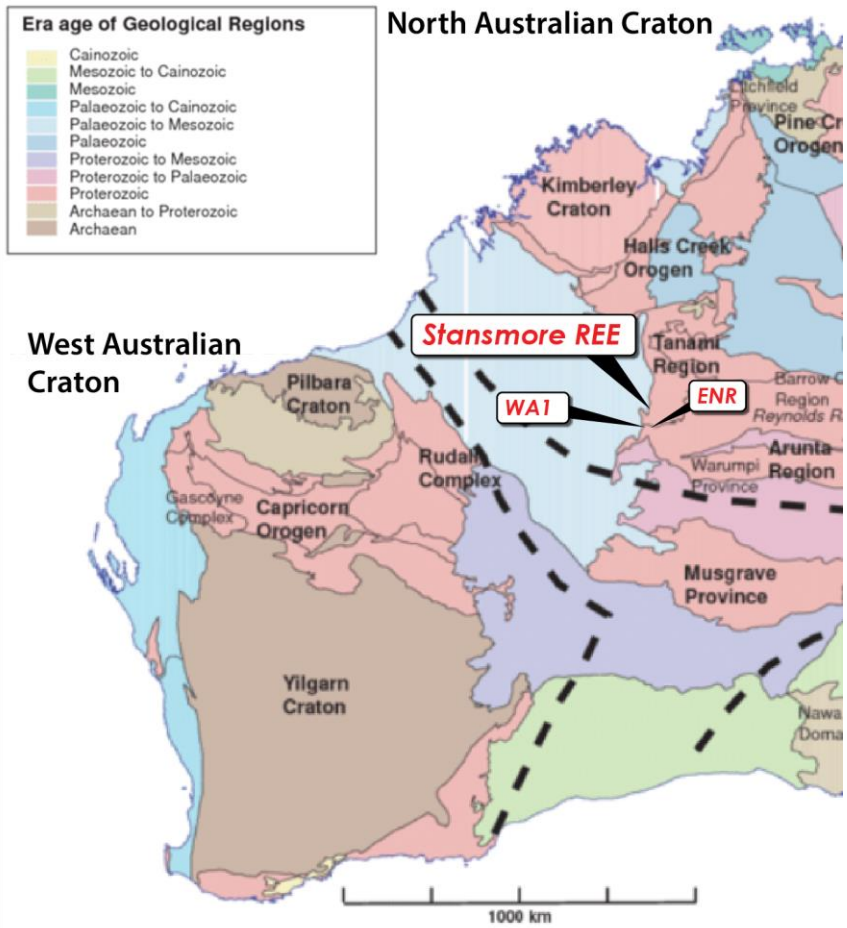

Figure 2. Stansmore REE Carbonatite – IOCG Project (Map overlay, Geodynamic and metallogenic evolution of Proterozoic Australia) [3].

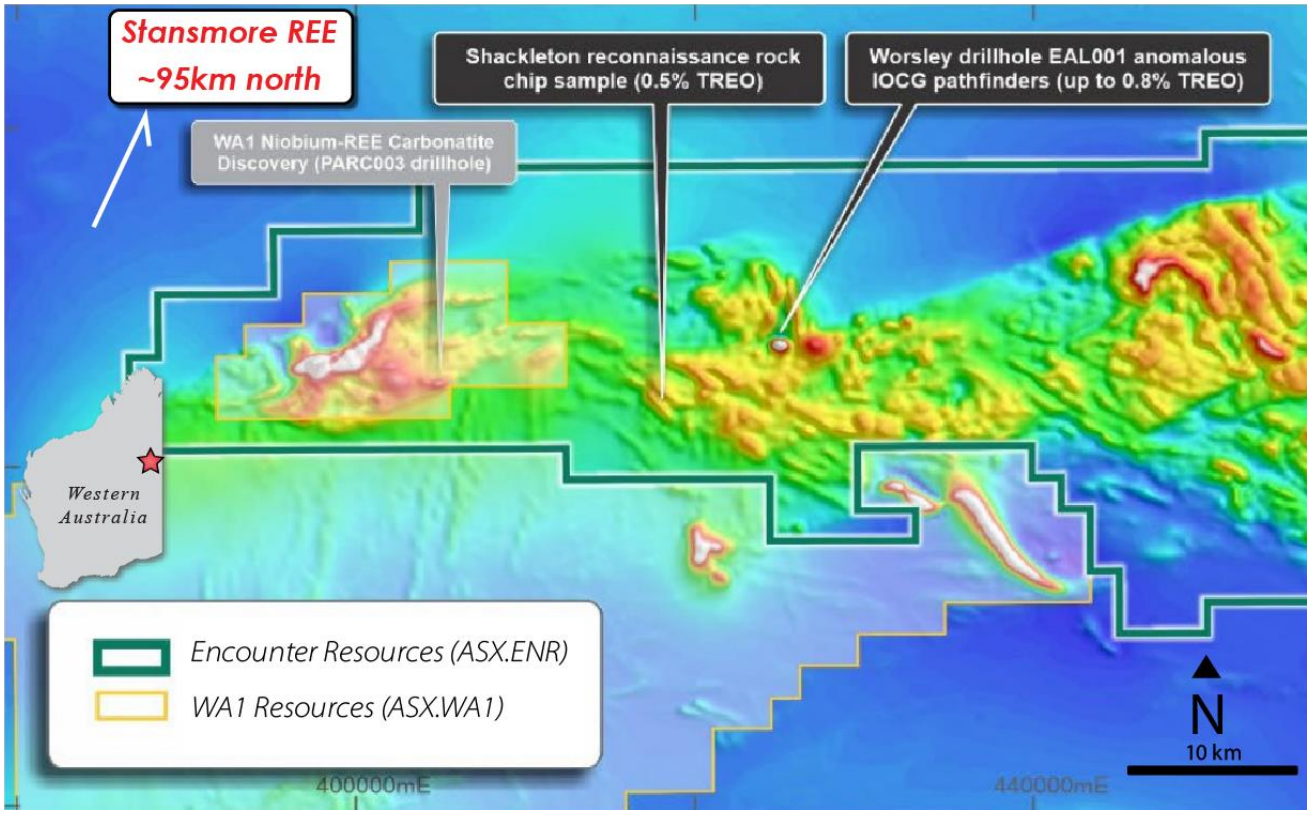

Figure 3. West Arunta Cu-REE projects, highlighting the discrete magnetic anomalies associated with both WA1 and ENR discoveries (Magnetics TMI overlay) [2]

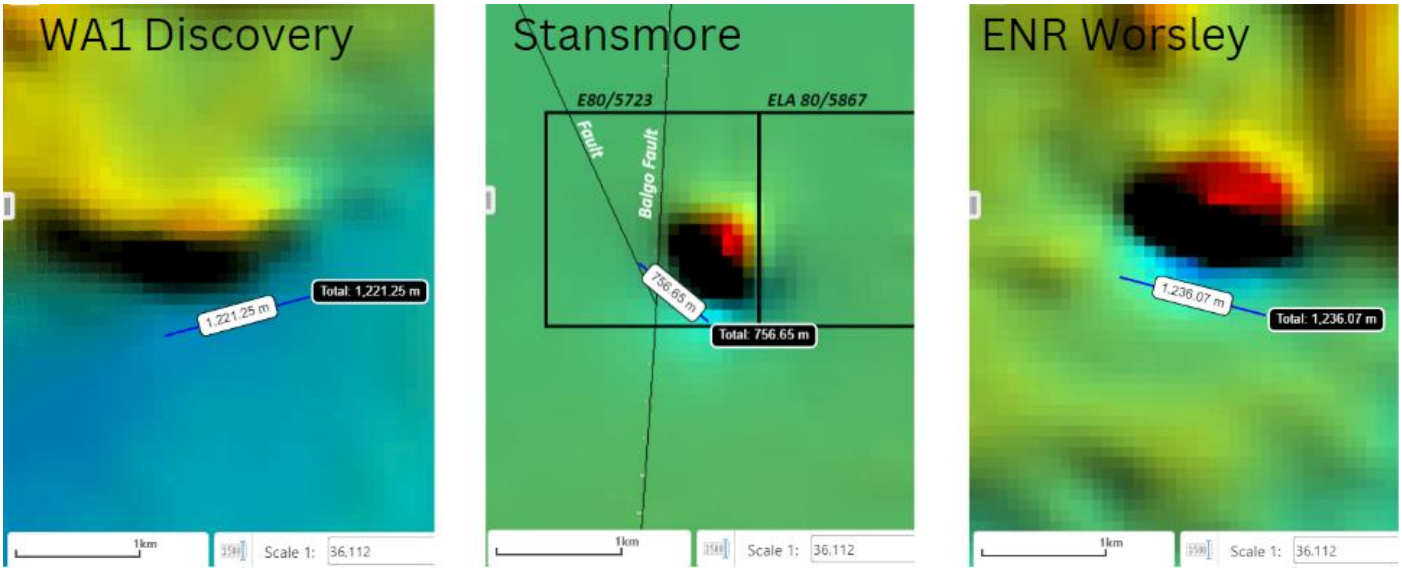

Figure 4. Magnetics TMI overlay, showing Stansmore prominent magnetic anomaly extending for ~700m, displaying similarities to WA1 and Encounter Resources REE/IOCG prospects, which both extend for ~1,200m respectively. *Source DMIRS Geoview*

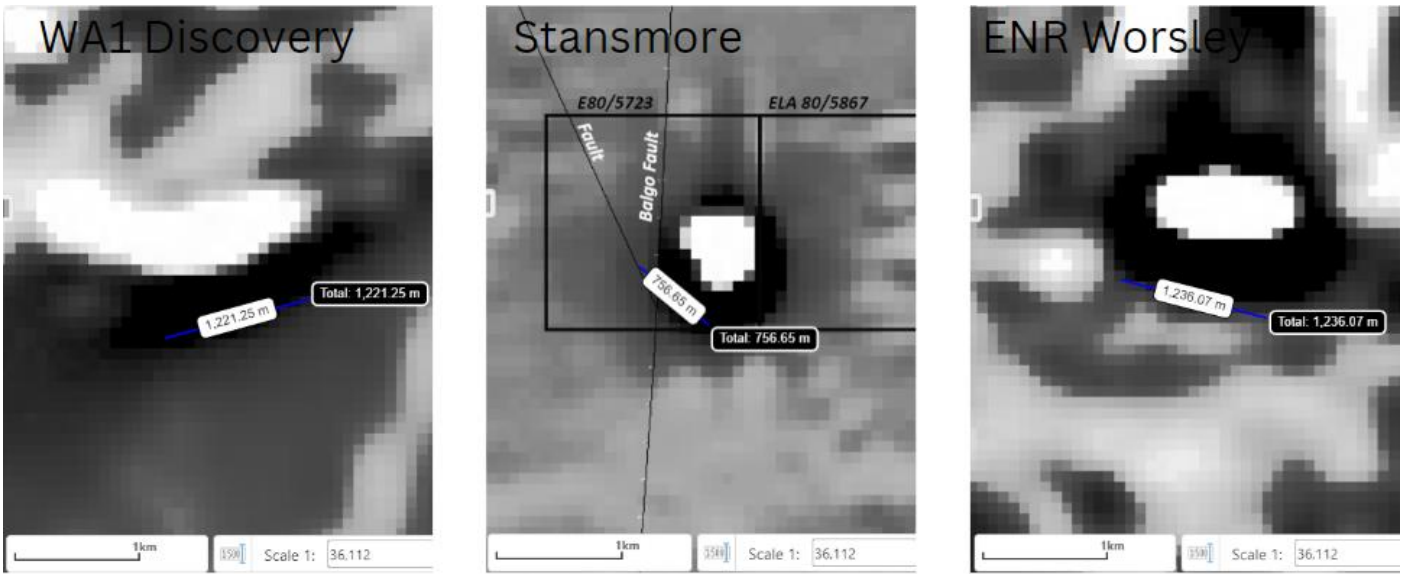

Figure 5. Magnetics First Vertical Derivative overlay, showing Stansmore prominent magnetic anomaly extending for ~700m, displaying similarities to WA1 and Encounter Resources REE/IOCG prospects, which both extend for ~1,200m respectively. *Source DMIRS Geoview*

ELA 80/5852 and ELA 80/5853

In addition to entering into the binding Heads of Agreement to acquire the Stansmore Project (E80/5723), WAR has made two new Exploration Licence applications in proximity to the Company's Stansmore Project, comprising EL(A) 80/5852, and EL(A) 80/5853. The two applications are located north and east of the Stansmore Project tenement. The areas of the applications will now be assessed for their prospectivity based on review of the limited existing datasets available. If warranted, the Company will plan exploration programs that will be undertaken upon the tenement(s) progressing to grant and once heritage protection agreements and other necessary consents are in place. While the Company is not currently aware of any reason why these applications will not be granted, there is no guarantee that the applications will be granted or that applications will not be withdrawn, in which instance the Company would not acquire any interest in the area subject of the relevant application(s).

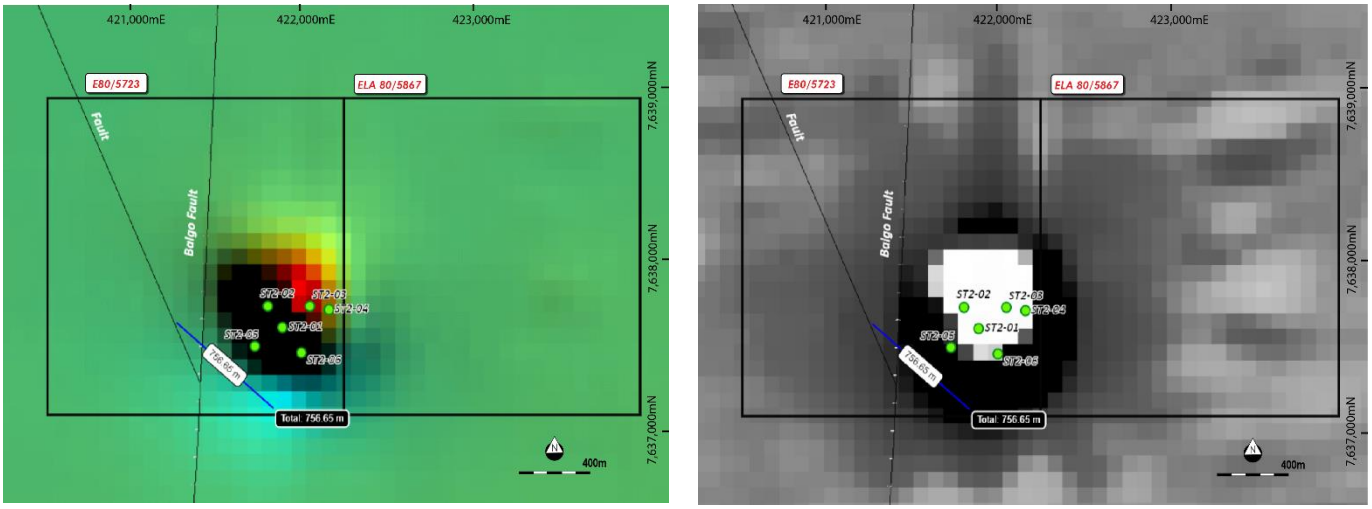

Figure 6. Drilling at Stansmore (refer Appendix 1) overlain on magnetics TMI and 1VD imagery. *Source DMIRS Geoview*

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.

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.

Acquisition Terms

Lycaon and WAR have executed a Heads of Agreement to acquire 100% of exploration licence E80/5723, held by Thomas Langley in consideration for the issue 1,000,000 fully paid ordinary shares in the capital of Lycaon (**Shares**) at a deemed issue price of $0.25 per Share (**Consideration Shares**).

The Acquisition is conditional upon shareholder approval, grant of E80/5723 and Ministerial Approval to transfer E80/5723.

Thomas Langley is a Director of the Company. As part of the shareholder approval, Lycaon shall seek approval for the issue of the Consideration Shares to Thomas Langley pursuant to Listing Rule 10.11.

In addition, a facilitation fee of 150,000 Shares will be issued to Inyati Capital Pty Ltd (**Inyati**) at a deemed issue price of $0.25 per share. Inyati assisted Thomas Langley in originally identifying the opportunity to peg E80/5723 over 12 months ago. They have since this time acted as his adviser in identifying possible ways in which to best develop the opportunity presented by E80/5723.

-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

The information in this document that relates to Exploration Results and other technical information is based on information compiled by Mr. Bill Oliver who is a member of the Australian Institute of Geoscientists (MAIG) and a member of the Australasian Institute of Mining and Metallurgy (MAusIMM). Mr. Oliver is a consultant to the Company 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". Mr. Oliver consents to the inclusion in this presentation of the matters based on his 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. Historical Drilling at the Stansmore Project

Hole ID	Hole Type	Local East	Local North	AMG East	AMG North	Dip / Azi	RL	Depth	EoH Lithology
ST2-01	RAB	0	50	421665	7637535	Vertical	375	8	Metaquartzite*
ST2-02	RAB	0	150	421595	7637605	Vertical	375	10	Weathered basic rock
ST2-03	RAB	100	50	421735	7637605	Vertical	375	8	Altered diorite with alteration of ferromagnesian minerals *
ST2-04	RAB	150	-50	421840	7637570	Vertical	375	6	Altered microdiorite with replacive epidote and carbonate impregnation *
ST2-05	RAB	-100	50	421595	7637465	Vertical	375	12	Weathered basic rock
ST2-06	RAB	0	-100	421770	7637430	Vertical	375	8	Claystone/siltstone/sandstone

Note:

- Drilling was carried out on a local grid, oriented NE-SW.
- Grid coordinates 0mE, 0mN correspond to the peak of the magnetic anomaly (refer Figs 4 – 6), which is located at approximately 421,700mE, 7,637,500mN (AMG Zone 52)
- Lithologies marked with * are determined by petrology

Appendix 2. Historical Assay Results from the Stansmore Project

Hole	Sample	From	To	Cr	Co	Ni	Cu	Zn	Pb	P	Sr	Y	Zr	Nb	La	Ce
ST2-01	4348	0	5.5	90	38	30	96	13	18	BD	43	97	190	BD	24	36
	4349	5.5	8.0	Sample not assayed, used for petrology (refer Appendix 1)												
ST2-02	4350	7	10	20	71	28	71	27	14	BD	101	93	140	BD	34	58
ST2-03	4351	0	5	15	142	19	113	31	16	BD	81	140	180	4	55	75
	4352	5	8	Sample not assayed, used for petrology (refer Appendix 1)												
ST2-04	4353	4	6	26	11	18	17	16	15	BD	50	43	265	BD	32	67
ST2-05	4354	3.5	7	16	55	39	127	33	13	BD	83	43	180	10	12	38
	4355	7	10	Sample not assayed, used for petrology (refer Appendix 1)												
ST2-06	4356	5	8	15	BD	14	16	17	18	BD	74	29	240	BD	16	36

Note:

- All values in ppm
- BD = Below Detection.

Appendix 3. 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.*	Re-reporting of historical drilling data. Percussion drilling completed in 1982. Methodology detailed in WAMEX reports; BHP Minerals Limited (WAMEX Report A12302)
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).*	Rotary Air Blast (RAB) drilling with BHP owned Edson drill mounted 4WD truck.
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.*	Re-reporting of historical drilling data. No comments on recovery in reports.
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.*	Re-reporting of historical drilling data. Geological logging of drilling has been completed to an acceptable standard of detail (refer WAMEX Report A12302) and is supported by petrographic studies. Logging is qualitative in nature.
Sub-	• *If core, whether cut or sawn and whether quarter,*	Re-reporting of historical drilling data.

Criteria	JORC Code explanation	Commentary
sampling techniques and sample preparation	*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 details of sub sampling techniques or sample preparation. Samples were collected from intervals below sand cover as detailed in Appendix 2. From some drill holes a sample was collected for Petrology analyses.
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.*	Re-reporting of historical drilling data. No details of analytical techniques or QA/QC procedures for RAB drilling. Samples collected were sent to Pilbara Laboratories Pty Ltd, Perth for analysis by XRF. Aeromagnetic surveys calibrated by BHP Exploration using industry standard processes (diurnal correction etc.).
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.*	Re-reporting of historical drilling data • No significant intersections presented, only assay data • No twinned holes • Assay and log data taken from WAMEX report A12302 • No adjustment to assay data
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.*	• Re-reporting of historical drilling data • Location is based off plans in report and needs field checking. • Drilling was carried out on a local grid, oriented NE-SW. • Grid coordinates 0mE, 0mN correspond to the peak of the anomaly which is located at approximately 421,700mE 7,637,500mN, AMG Zone 52) • Data is in AMG Zone 52 • Topographic data is from open file data and is considered acceptable for current project status
Data spacing and	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and*	Re-reporting of historical drilling data. Drilling carried out on 100 m x 100 m (approximately)

Criteria	JORC Code explanation	Commentary
distribution	*grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	Early stage exploration, continuity not sufficient for Mineral Resources
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.*	Re-reporting of historical drilling data No details in WAMEX Report and insufficient information to interpret from available data.
Sample security	*The measures taken to ensure sample security.*	Re-reporting of historical drilling data, no details on sample security provided.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	No audits have been completed.

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. • The Stansmore Project 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 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

Criteria	JORC Code explanation	Commentary
		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.*	Refer Appendix 1
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*	All results reported are in Appendix 2. No data has been aggregated.

Criteria	JORC Code explanation	Commentary
	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 details in WAMEX Report and insufficient information to interpret from available data. • All lengths provided are downhole lengths and true widths are not known.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Refer to figures within this report.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	All meaningful information has been included in the body of the text.
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, 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