### NIOBIUM AND REE EXPLORATION AND HERITAGE UPDATE – WEST ARUNTA

### HIGHLIGHTS

- Geophysical review of West Arunta tenure undertaken by Southern Geoscience Consultants (SGC).
- 9 target areas identified based on airborne magnetic data that have potential to represent carbonatite intrusive Niobium and Rare Earth Element (REE) Mineralisation.
- Land Access agreement progressing with the Parna Ngururrpa Traditional Owners Group, with their Board meeting to consider the agreement in May.
- Ongoing exploration success by WA1 delivering outstanding Niobium results approximately 90 kms to the south of CuFe tenure, has resulted an influx of junior explorers to the region with a number of parties planning drilling programs in coming months which will assist to inform CuFe's exploration efforts.

CuFe Ltd (ASX: **CUF**) (**CuFe** or the **Company**) is pleased to provide an update on exploration activities related to its West Arunta Project (E80/5925, E80/5950 and E80/5990, all of which are pending grant).

CuFe Executive Director, Mark Hancock, commented "The West Arunta region is really showing its potential with the recent successes of explorers such as WA1 and ENC. We believe our tenements have the right setting to host carbonatite intrusions and Niobium and Rare Earth Element (**REE**) Mineralisation. The broad geophysical review by Southern Geoscience Consultants (**SGC**) has quickly identified areas that have potential and will be invaluable in guiding our early and initial exploration work fronts. Our access to the tenure is progressing well through the regulatory steps and a land access agreement with the Parna Ngururpa traditional owners is in draft form. We thank them for their support to date and look forward to a mutually beneficial relationship in the region."

"The West Arunta region is gaining quickly gaining momentum as an emerging critical minerals province. The prospectivity for further Niobium discoveries is high and on the completion of the grant of our tenure CuFe will commence its exploration efforts on the ground, leveraging off the targets identified from this geophysical work".

#### **Geophysical Analysis**

During February 2024 SGC were engaged by CuFe to undertake a geophysical review of the publicly available airborne magnetic data for the West Arunta tenements. The review included the re-processing of airborne magnetic data, 3D unconstrained inversion modelling of the reprocessed magnetics and the identification and development of targets that could represent carbonatite intrusive and Niobium and REE mineralisation.

Analysis of the Total Magnetic Imagery (TMI) identified three anomalous areas for 3D inversion modelling across the tenement package resulting in 9 target anomalies for further investigation and conventional exploration regimes in the future (See Figure 1).

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Figure 1: Total Magnetic Intensity (TMI) and location of Target areas T1 to T9.

Of particular interest is Target 001 which is defined by two vertical to gently plunging ovoid pipe shaped bodies. The modelled bodies have an approximate strike length of 1.5km and depth extent of 1 to 1.5 km in the highest susceptibility. The target bodies sit approximately 4km East of the Lycaon Resources (LYN) Stansmore Target (see Figure 2).



Figure 2: 3D inversion modelling of the T1 and T2 magnetic anomalies.



Although the target areas identified could represent magnetic responses other than carbonatite intrusions the review has provided valuable context to the very early exploration strategy and work streams when access to the ground is granted.

Field inspections, soils sampling, whole rock geochemistry and higher resolution geophysical surveys are likely to form the next steps in the exploration phase to help identify the presence of any Niobium/REE mineralisation and potential drill targets.

#### Native Title and Tenure

Land access is progressing through the regulatory steps and a draft land access agreement with the Parna Ngururpa traditional owners is in progress and is to be considered by their Board in May 2024. It is noted that access to this tenure requires the consent of the Minister of Aboriginal Affairs as the area is a designated Aboriginal Reserve. Neighbouring explorers LYN have successfully received this consent for their tenure as per their announcement to the ASX on 16 April 2024.

Released with the authority of the CuFe Board.

#### **COMPETENT PERSON**

The information in this report that relates to geology is based on, and fairly represents, information which has been compiled by Matthew Ramsden, a Member of the Australasian Institute of Geoscientists and a full-time employee of CuFe Ltd. Matthew Ramsden has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken 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'. Matthew Ramsden consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.

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## JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

	(	Criteria in	this	section	apply to	all su	cceeding	sections.
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Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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>	<ul> <li>The geophysical data referenced in this announcement is sourced from a government survey in 2010</li> <li>The survey was an airborne survey – Stansmore East 70501 job number P1227</li> <li>The survey was flown on 200m line spacings at an mean terrain clearance of 30m.</li> </ul>
Drilling techniques	<ul> <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 drilling was undertaken by CuFe Ltd across tenure.
Drill sample recovery	<ul> <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 drilling was undertaken by CuFe Ltd across tenure.
Logging	<ul> <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> </ul>	No drilling was undertaken by CuFe Ltd across tenure.

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Criteria	JORC Code explanation	Commentary
	• The total length and percentage of the relevant intersections logged.	
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	No drilling was undertaken by CuFe Ltd across tenure.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	No analysis being reported in this announcement.

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Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	No drilling was undertaken by CuFe Ltd across tenure.
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	GDA94 datum and MGA zone 52 projection.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	Line spacing of 200m, appropriate for airborne survey of this nature.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	No drilling was undertaken by CuFe Ltd across tenure.

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Criteria		JORC Code explanation	Commentary
Sample security		The measures taken to ensure sample security.	No samples taken in this announcement.
Audits reviews	or	The results of any audits or reviews of sampling techniques and data.	No audits carried out.

#### **Section 2 Reporting of Exploration Results**

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>E80/5925, E80/5950 and E80/5990 are pending grant</li> <li>Access to this tenure requires the consent of the Minister of Aboriginal Affairs</li> <li>Land Access agreement is in draft form with Parna Ngururrpa traditional owners</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>There has been limited exploration work on the CuFe West Arunta tenure and this has been predominantly for Cu-Au</li> <li>In the 1980's BHP undertook some work evaluating for Kimberlites and in the early 1990's CRA held the tenure but had limited success with land access agreements.</li> <li>In 2017-2022 Newmont undertook regolith mapping, geochemical sampling, rock chip sampling and RC drilling in the area for CuAu sediment hosted style mineralisation.</li> <li>Lycaon Resources (LYN) hold the neighbouring tenements and have undertaken a similar geophysical review and aim to be drilling in the area mid 2024.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	The CuFE West Arunta tenure is located in the West Arunta Orogen, representing the western-



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Criteria	JORC Code explanation	Commentary
		<ul> <li>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. As a result, 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.</li> <li>The 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).</li> </ul>
Drill hole Information	<ul> <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> <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>	<ul> <li>No drilling was undertaken across the tenure by CuFe.</li> </ul>
Data aggregation methods	<ul> <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</li> </ul>	<ul> <li>No data aggregation methods were used.</li> <li>No metal equivalents have been reported.</li> </ul>

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Criteria	JORC Code explanation	Commentary
	<ul> <li>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>	
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	No mineralisation widths have been reported.
Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>Included within body of the text.</li> </ul>
Balanced reporting	<ul> <li>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.</li> </ul>	The accompanying document is a balanced report with a suitable cautionary note.
Other substantive exploration data	<ul> <li>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         <ul> <li>size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul> </li> </ul>	Included within body of text.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of</li> </ul>	<ul> <li>Field validation and reconnaissance</li> <li>Geological mapping and surface rick chip sampling;</li> <li>Soil Geochemical Surveys</li> </ul>

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Criteria	JORC Code explanation	Commentary
	possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	<ul> <li>Airborne and ground geophysical surveys;</li> <li>Aboriginal heritage surveys</li> <li>Drilling</li> </ul>

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