

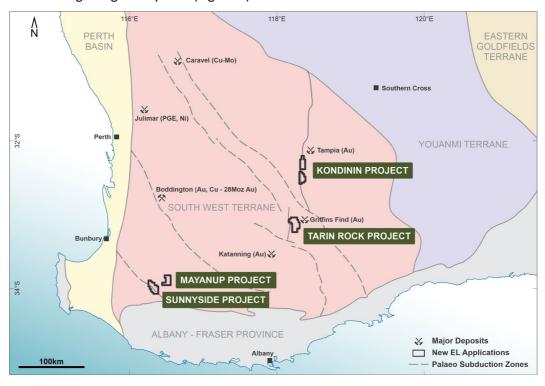
21 October 2020

#### **NEW COPPER AND GOLD PROJECT APPLICATIONS IN WESTERN AUSTRALIA**

## **Highlights**

- Applications submitted for five new exploration licences in the highly prospective South West Terrane of Western Australia.
- These applications cover three project areas which are considered prospective for large porphyry-style Cu-Au deposits or intrusion related orogenic Au deposits.
- Preliminary evaluation of open file data indicates very limited historical exploration has been undertaken in these areas.
- These applications represent a diversification from the Company's focus on coal and power projects in Botswana and complement African Energy's previous investment in ASX-listed Caravel Minerals, which owns a large porphyry Cu-Mo deposit in Western Australia.

African Energy Resources Limited (ASX: AFR, "African Energy" or "the Company") is pleased to advise that the Company has submitted applications for five exploration licences in the highly prospective South West Terrane of Western Australia. The applications cover three areas, the Kondinin, Tarin Rock and Sunnyside-Mayanup projects, each of which is considered prospective for large porphyry Cu-Au deposits and/or intrusion related orogenic gold deposits (Figure 1).



**Figure 1** Location map showing the five new exploration licence application areas with respect to key geological elements discussed in the text (figure currently being drafted).



#### **New Exploration Licence Applications**

These applications have been made as part of an internal project generation program which is designed to diversify the Company's portfolio away from a reliance solely on coal-to-power development projects in Botswana.

The project generation has utilised open-file geophysical and geological data sourced from the Geological survey of Western Australia (GSWA), and where available, geochemical data from the CSIRO/CRC-LEME Laterite Geochemical Database for the Southwest Yilgarn Craton. The Sunnyside-Mayanup and Tarin Rock projects are located close to major crustal scale lineaments believed to represent palaeo-subduction zones that may be spatially related to large-scale porphyry deposits such as Boddington and Caravel (Calingiri). The Kondinin Project straddles a major N-S fault zone which links a palaeo-subduction zone with the terrane boundary between the South west Terrane and the Youanmi Terrane, and which is considered prospective for intrusion related orogenic gold mineralisation (refer Figure 1).

#### **Sunnyside-Mayanup Project**

Two tenement applications were submitted for this project area; Sunnyside (E70/5614, 57 graticular blocks), and Mayanup (E70/5613, 40 graticular blocks). These two exploration licence applications occur on flexures in regional structures which are interpreted to represent old subduction zones that may be prospective for porphyry Cu-Au mineralisation (Figure 2).

The Sunnyside application straddles a structure which represents a sub-terrane boundary. On the northern side of this structure, the GSWA regional mapping indicates the presence of hornblende-bearing quartz monzonites which are locally porphyritic in nature. These types of rocks are considered prospective for porphyry Cu-Au mineralisation. This is supported by strong geochemical anomalism for copper in the CSIRO-CRC-LEME Laterite Geochemical database in this area, with anomalous samples (>100ppm Cu) containing up to 409ppm Cu over an area of ~14km x 3.5km.

The Mayanup application straddles two linear structures and contains copper anomalism up to 352ppm Cu over an area of ~12km x 5km (Figure 2).

#### **Tarin Rock Project**

The Tarin Rock project comprises a single application for an exploration licence (E70/5615), covering 70 graticular blocks. This project occurs in an area of geological complexity where regional aeromagnetic data indicates the presence of a series of complex, nested felsic intrusive rocks to the immediate north-east of a jog in a major NNE trending structure (Figure 3). The Griffins Find intrusion related orogenic gold deposit occurs a further 5km to the NE of the tenement application. Tarin Rock is considered prospective for intrusion related orogenic gold deposits.



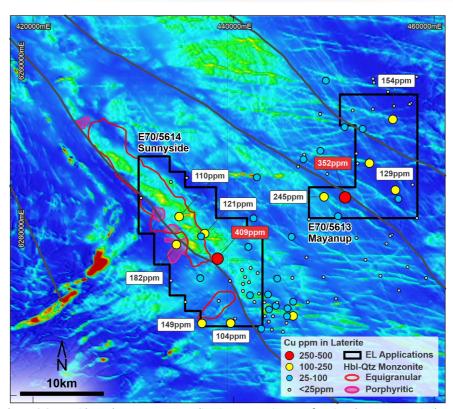


Figure 2 Sunnyside and Mayanup EL applications on an image of regional aeromagnetic data, also showing the location of CRC-LEME laterite samples and copper assays for these samples

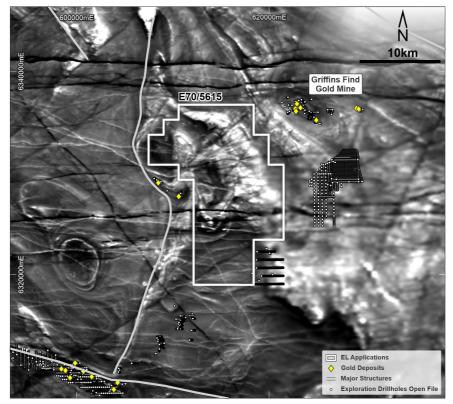
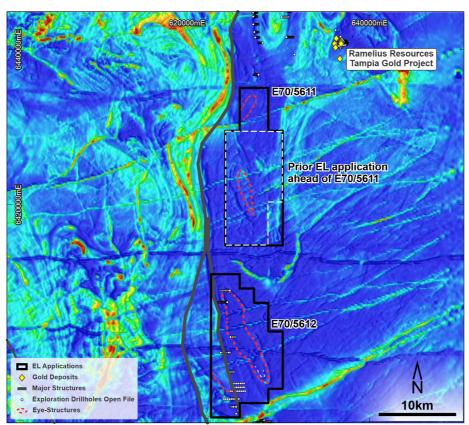


Figure 3 Tarin Rock EL application outline on regional aeromagnetic data showing a complex series of nested felsic intrusions near a major jog in a NNE trending fault



#### **Kondinin Project**

The Kondinin Project consists of two EL applications, E70/5611 (Kondinin North, 38 graticular blocks) and E70/5612 (Kondinin South, 39 graticular blocks). These applications cover deformed felsic gneisses to the east of a major N-S structure in which several elongate dome or "eye" structures are present. A competing exploration licence application was submitted ahead of E70/5611, covering the central core of the Company's application (Figure 4). Kondinin North is approximately 10km to the SW of Ramelius Resources' Tampia gold project. Limited aircore drilling over Kondinin South is reported in open file data.



**Figure 4** Kondinin EL application outlines on regional aeromagnetic data showing a series of domed ("eye") structures immediately east of a N trending major fault.

#### **Next Steps**

Preliminary examination of open file data indicates that minimal to limited modern exploration has been undertaken on the tenement application areas. Extensive cover of laterite, residual soils, and in some places recent colluvial to alluvial cover is present. Once the exploration licences have been granted the Company will undertake reconnaissance mapping and geochemical sampling of the project areas to confirm their prospectivity and define targets for further follow-up.

For and on behalf of the board. Authorised for release by Frazer Tabeart, CEO For further information, please contact the Company directly on +61 8 6465 5500.



#### **COMPETENT PERSONS STATEMENT**

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') sets out minimum standards, recommendations and quidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The information contained in this announcement has been presented in accordance with the JORC Code (2012 edition) and references to "Measured, Indicated and Inferred Resources" are to those terms as defined in the JORC Code (2012 edition).

The information in this report relating to exploration activities and results is based on information compiled by Dr Frazer Tabeart (Executive Director of African Energy Resources Limited). Dr Tabeart is a member of the Australian Institute of Geoscientists. Dr Tabeart is a qualified geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking, to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Tabeart consents to the inclusion in the ASX release of the matters based on their information in the form and context in which it appears.

# APPENDIX 1: JORC Code, 2012 Edition – Table 1 report

Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut Faces, 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>	CSIRO Laterite samples:  Details on the sampling programme can be found at https://publications.csiro.au/publications/#publication/PIprocite:3fe12d41-ac73-4a8a-8420-47816f0fa509  Samples were taken at nominal 9 km spacings as part of a state-wide regional geochemistry survey focussed on iron-rich ferricrete. Samples of about 1 kg in weight were taken and sieved to remove coarse fragments and vegetation.  Samples are considered representative due to their wide spacing. The material sampled was either iron-rich or carbonate-rich, which are known geochemical collectors in the regolith.  This is appropriate for regional sampling programmes.
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).	• N/A
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>	<ul> <li>Standard field procedures for regional soil geochemical sampling were used.</li> <li>No sample bias has been established.</li> </ul>
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, Face, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	• N/A
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> </ul>	The nature of the soil sampling and lateritic samples is appropriate for regional exploration targeting.

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Criteria	JORC Code explanation	Commentary
	<ul> <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>	Quality control standards, duplicates and blanks were incorporated into the sampling and analytical procedures as per industry standard practice, with these making up 15% of the total volume of samples.
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 (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>Samples were submitted to Ultratrace Laboratories. A suite of 53 elements, including Au, was analysed variously by X-ray fluorescence (XRF), inductively coupled plasma optical emission spectrometry (ICP-OES), and inductively coupled plasma mass spectrometry (ICP- MS). Gold was also assayed for via an aqua regia digest.</li> <li>Quality control standards, duplicates and blanks were incorporated into the sampling and analytical procedures as per industry standard practice, with these making up 15% of the total volume of samples.</li> </ul>
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>	<ul> <li>The results have not been verified by independent or alternative companies.         However, this is not considered material at such an early stage of exploration.</li> <li>Primary data has been entered into standard Excel templates and plotted in ArcGIS software.</li> </ul>
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>	<ul> <li>The standard coordinate system for the projects in this report is MGA_GDA20, Zone 50.</li> <li>Sample locations were located by hand held GPS.</li> </ul>
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>	Soil sample spacing is approximately 9km.
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.	• N/A

## APPENDIX 1: JORC Code, 2012 Edition – Table 1 report

Criteria	JORC Code explanation	Commentary
	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.	
Sample security	The measures taken to ensure sample security.	Chain of custody was managed by CSIRO, and there is no reason to doubt the veracity of the samples.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Not warranted at this early stage of exploration.

### **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</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>	AFR Australia Pty Ltd, a wholly owned subsidiary of African Energy Resources Limited has applied for five Exploration Licences in the South West Mineral Field:  © E70/5611 Kondinin North (38 graticular blocks)  © E70/5612 Kondinin South (39 graticular blocks)  © E70/5613 Mayanup (40 graticular blocks)  © E70/5614 Sunnyside (57 graticular blocks)  © E70/5615 Tarin Rock (70 graticular blocks)  The Company is currently reviewing the Heritage and Native Title situation over the application areas.  The tenements are still subject to grant. A competing application was lodged over approximately 70% of E70/5611 approximately 20 minutes before the AFR application. If valid, this application will have priority over the area of conflict within E70/5611.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Company is still reviewing open file (WAMEX) reports on previous exploration activities, but no significant exploration for Cu-Au deposits appears to have been previously undertaken on these tenement application areas.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Intrusion related copper-gold and gold only deposits related to Archean subduction events at terrane boundaries.</li> <li>Examples of the deposit type include Boddington (Au-Cu) and Calingri (Cu-Mo)</li> </ul>
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, including 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 plus hole length.	• N/A

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Criteria	JORC Code explanation	Commentary
	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.	
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 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>	• N/A
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>	• N/A
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 Diagrams in body of text
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 results reported are representative.
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.	Assessment of other substantive exploration data is still underway but is considered immaterial at this early stage of exploration.
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 possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Follow-up exploration programs will be designed after completion of reviews of previous exploration.</li> <li>Initial programs will primarily comprise further soil and laterite sampling on a more detailed basis to refine exploration targets.</li> </ul>