



# Arc Minerals Limited - Operational Update

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Arc Minerals Limited

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**Arc Minerals Ltd**

**('Arc' or the 'Company')**

**Operational Update**

Arc Minerals (LSE: ARCM), an exploration company forging partnerships to discover and develop Tier 1 copper deposits, is pleased to provide an update on activities at its Joint Venture project in Zambia and at its Virgo Project within the highly prospective Central Structural Corridor of the Kalahari Copper Belt ('KCB') in the Republic of Botswana.

## **Highlights**

### **Zambia:**

- **Following the end of the rainy season, the Arc Minerals Joint Venture partner has commenced work at site**
- **Work programme to include core diamond drilling, initially at two identified targets**

### **Botswana:**

- **Ground IP Survey over copper targets in PL 135/2017 anticipated to be completed by next week**

- **First phase of 2,000m Reverse Circulation Drill Programme to commence this quarter**
- **Prospecting License Renewals submitted**

**Nick von Schirnding, Executive Chairman of Arc Minerals, commented:**

*"We are thrilled to be commencing drilling activities imminently in both Zambia and Botswana, following a lengthy rainy season in North West Zambia.*

*Extensive studies have been carried out on the stratigraphic hole which was completed by our joint venture partner in December 2023, providing valuable insights and geological data of the deeper part of the Kabompo basin.*

*We are also very excited to move onto the next stage by ramping up activities on our licences in Botswana with drilling to commence this quarter."*

### **Zambian Exploration Field Season**

Arc is progressing its Zambia Copper Project through its 67% subsidiary, Unico Minerals Limited, as part of a joint venture. The joint venture partner has an earn in arrangement by which they are required to undertake a significant amount of project expenditures (see announcement dated 10 November 2023). The joint venture partner has also assumed operatorship of the project. Over the course of the rainy season a thorough geological technical review of the project was initiated by the joint venture partner to evaluate its status and identify potential opportunities. The directors are advised that through expansive consultations, rigorous data analysis and information obtained from the recent stratigraphic hole, the review team appointed by the joint venture partner has generated valuable insights that has culminated in a work program for 2024 which will entail:

- LiDAR Survey to assist in determining the surface outcrop positions with precision;
- Detailed geological mapping, spectral and pXRF analysis of samples collected providing a deeper understanding of the geological context of the area in relation to the stratigraphic horizons of interest;
- Core Diamond drilling in areas that are deemed prospective to host copper and nickel mineralisation; and.
- Further ground-based geophysics to understand the underlying basin and sub-basin geometry

The joint venture partner exploration team has already been to site in recent weeks and mobilisation for the 2024 exploration season commences imminently. The Directors look forward to providing more detailed updates as work progresses.

### **Botswana Geophysical Survey**

The Company has contracted 3D Earth Exploration ('3DEE') to conduct a Gradient Array Induced Polarisation ("IP") survey over one of the prospective parts of its wholly owned PL 135/2017 license in Botswana. This ground IP will help resolve the 3D orientation of structures and lithologies while also helping to discriminate between types of conductive structures and providing targets for drilling.

Following a c.30 line-kilometre bush and shrub clearance started in March 2024, the ground IP survey commenced on 22 April 2024 and has been extended to cover additional areas that 3DEE has recommended based on the field results observed to date. The extended programme will approximate to c.35 line-kilometres over the selected part of the license area and is expected to complete within the next few weeks. Further updates will be provided on the results of this survey when they are available.

### **Botswana Drill Programme**

The results from the IP survey referred to above, will inform a first phase c.2,000m reverse circulation ('RC') drill programme to target the generated anomalies within the PL135/2017 license.

Drilling contractors have been invited to tender for the eight- to ten-hole drill programme, which is expected to commence this financial quarter and take approximately one month to complete.

### **Botswana License Renewal Applications**

The Company's Botswana subsidiary has this week lodged renewal applications for both the PL135/2017 and PL162/2017 licenses that are due to expire later this year. This is an administrative process and the Directors see no reason why the licences will not be automatically renewed in accordance with their terms. The renewals will extend the period by which the Company can continue exploring the Virgo Project licenses for a further two years (and so would expire in 2026).

Additional information on the Virgo project is set out in the Appendix at the end of this announcement.

### **Qualified Persons**

Mr Vassilios Carellas (BSc (Hons), MAusIMM) is the Chief Operating Officer for Arc Minerals and has sufficient experience 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 under the JORC Code (2012). Mr Carellas consents to the inclusion in this announcement of the technical matters based on his information in the form and context in which it appears.

### **Market Abuse Regulation (MAR) Disclosure**

This announcement contains inside information for the purposes of Article 7 of the Market Abuse Regulation (EU) 596/2014 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018 ("MAR"), and is disclosed in accordance with the Company's obligations under Article 17 of MAR.

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### **Forward-looking Statements**

*This news release contains forward-looking statements that are based on the Company's current expectations and estimates. Forward-looking statements are frequently characterised by words such as "plan", "expect", "project", "intend", "believe", "anticipate", "estimate", "suggest", "indicate" and other similar words or statements that certain events or conditions "may" or "will" occur. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause actual events or results to differ materially from estimated or anticipated events or results implied or expressed in such forward-looking statements. Such factors include, among others: the actual results of current exploration activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; possible variations in ore grade or recovery rates; accidents, labour disputes and other risks of the mining industry; delays in obtaining governmental approvals or financing; and fluctuations in metal prices. There may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Any forward-looking statement speaks only as of the date on which it is made and, except as may be required by applicable securities laws, the Company disclaims any intent or obligation to update any forward-looking statement, whether as a result of new information, future events or results or otherwise. Forward-looking statements are not guarantees of future performance and accordingly undue reliance should not be put on such statements due to the inherent uncertainty therein.*

## Appendix

### Botswana: Background on the Virgo Licenses

#### *PL 135/2017 License*

The Company's PL135/2017 prospecting license is surrounded on three sides by the prospecting licences of Khoemacau Copper Mining Limited ("Khoemacau"), who have recently been acquired by MMG for c.US\$1.9 billion.

This PL135/2017 license is located towards the south-eastern margin of the KCB occupying a similar geological setting to that recently drilled by Khoemacau at their recent Mawana Fold Discovery and the Zone 9 exploration target, where economic grades of copper mineralisation has already been intersected by drilling. These discoveries are located at the north-western and south-eastern margins of the Company's prospecting license, respectively.

Khoemacau's Mawana fold discovery has defined a possible economic zone of copper mineralisation that appears to trend towards and into the Company's PL 135/2017 license (Figure 1.). The Company's recent scout drill holes intersected anomalous grades of copper mineralisation close to this apparent trend and confirmed an east-west trending DKF-NPF contact position approximately 5km long running through the license.

*Fig 1. Image showing Khoemacau license holding, targets and drilling results in relation to PL 135/2017.*

In November 2021, Arc Minerals Limited acquired a 75% interest in Alvis-Crest (Proprietary) Limited, the holder of two prospecting licences (PL 135/2017 & PL 162/2017) in Botswana's Kalahari Copper Belt ("KCB"), colloquially called the Virgo Project/Licences. These licenses, cover an area of over 210km<sup>2</sup>, with PL 135/2017 approximately 10km south-east of the large underground Khoemacau Copper mine recently commissioned by Cupric Canyon Capital LP.

A map of the licences is available here:

**[http://www.rns-pdf.londonstockexchange.com/rns/3027T\\_1-2021-3-24.pdf](http://www.rns-pdf.londonstockexchange.com/rns/3027T_1-2021-3-24.pdf)**

The Virgo Licenses cover an area of over 210km<sup>2</sup> and lie within (PL 165/2017) and adjacent (PL

135/2017) to the highly prospective Central Structural Corridor and within 10km and 50km of the Zone 5 and Banana Zone copper projects respectively, known as the two largest copper projects on the KCB.

Historically, two copper-nickel soil anomalies have already been recorded on PL 135/2017 and PL 162/2017 and are approximately 3km and 2.5km in strike length, respectively. The largest of the two anomalies, located on PL 135/2017, overlays an interpreted DKF-NPF contact, while a second, more intermittent, anomaly may be linked to extensional faulting around the dome edge. The large coherent anomaly on PL 162/2017 also appears to overlay the interpreted DKF-NPF contact on the northern limb of a syncline.

\*\*ENDS\*\*

### Glossary of Technical Terms

"anomaly or anomalous"	something in mineral exploration that geologists interpret as deviating from what is standard, normal, or expected.
"assay"	The laboratory test conducted to determine the proportion of a mineral within a rock or other material. For copper, usually reported as percentage which is equivalent to percentage of the mineral (i.e. copper) per tonne of rock.
"azimuth"	the "compass direction" refers to a geographic bearing or azimuth as measured by a magnetic compass, in true or magnetic north.
"bornite"	Bornite, also known as peacock ore, is a copper sulphide mineral with the formula $Cu_5FeS_4$ .
"breccia"	Breccia is a rock classification, comprises millimetre to metre-scale rock fragments cemented together in a matrix, there are many sub-classifications of breccias.
"chalcocite"	Chalcocite is a copper sulphide mineral with the formula $Cu_2S$ and is an important copper ore mineral. It is opaque and dark-gray to black with a metallic luster.
"chalcopyrite"	Chalcopyrite is a copper sulphide mineral with formula $CuFeS_2$ . It has a brassy to golden yellow colour.
"chargeability"	Chargeability is a physical property related to conductivity. Chargeability is used to characterise the formation and strength of the induced polarisation within a rock, under the influence of an electric field, suggesting sulphide mineralisation at depth.
"covellite"	Covellite is a copper sulphide mineral with the formula $CuS$ . This indigo blue mineral is ubiquitous in some copper ores.
"diamond drilling"	A drilling method in which penetration is achieved through abrasive cutting by rotation of a diamond encrusted drill bit. This drilling method enables collection of tubes of intact rock (core) and when successful gives the best possible quality samples for description, sampling and analysis of an ore body or mineralised structure.
"dip"	A line directed down the steepest axis of a planar structure including a planar ore body or zone of mineralisation. The dip has a measurable direction and inclination from horizontal.
"geochemical"	Refers to geological information using measurements derived from chemical analysis
"geophysical"	Refers to geological information using unit measurements derived from the use of magnetic and electrical readings
"geophysical techniques"	include the exploration of an area by exploiting differences in physical properties of different rock types. Geophysical methods include seismic, magnetic, gravity, induced polarisation and other techniques;

	geophysical surveys can be undertaken from the ground or from the air
"gossan"	is an iron-bearing weathered product that usually overlies a sulphide deposit
"grab sample"	are samples of rock material collected from a small area, often just a few pieces or even a single piece of rock "grabbed" from a face, dump or outcrop or roughly 2-5kg. These are common types of rock samples collected when conducting mineral exploration. The sample usually consists of material that is taken to be representative of a specific type of rock or mineralisation.
"grade"	The proportion of a mineral within a rock or other material. For copper mineralisation this is usually reported as % of copper per tonne of rock.
"g/t"	grams per tonne; equivalent to parts per million ('ppm')
"hematite"	Hematite is the mineral form of iron(III) oxide (Fe <sub>2</sub> O <sub>3</sub> ), one of several iron oxides. Magnetite alteration is also typically associated with porphyry copper systems, at or close to the central core.
"Indicated Resource"	An "Indicated Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
"Inferred Resource"	An "Inferred Mineral Resource" is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.
"Induced Polarisation Geophysics"	Induced polarisation (IP) is a geophysical survey used to identify the electrical chargeability of subsurface materials, such as sulphides. The survey involves an electric current that is transmitted into the subsurface through two electrodes, and voltage is monitored through two other electrodes.
"intercept"	Refers to a sample or sequence of samples taken across the entire width or an ore body or mineralised zone. The intercept is described by the <u>entire thickness and the average grade of mineralisation.</u>
"JORC Code"	The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ('the JORC Code') is a professional code of practice that sets minimum standards for Public Reporting of minerals Exploration Results, Mineral Resources and Ore Reserves.
"K"	The element potassium, abundance on surface can be inferred from radiometric surveys
"Magnetics"	Rocks are made up of different minerals and the magnetic properties of a rock depends on the amount and type of iron rich minerals it contains. Earth's magnetic field interacts with these iron rich minerals to generate variations in the magnetic field. Measuring and mapping these variations allows remotely mapping of the distribution and patterns of magnetic rocks and, as a result, map the subsurface geology
"magnetite"	Magnetite is main iron ore mineral, with chemical formula Fe <sub>3</sub> O <sub>4</sub> . Magnetite is ferromagnetic, and it is attracted to a magnet and can be magnetized to become a permanent magnet itself.
"massive"	In a geological sense, refers to a zone of mineralisation that is dominated by sulphide minerals. The sulphide-mineral-rich material can occur in centimetre-scale, metre-scale or in tens of metres wide veins, lenses or sheet-like bodies containing sphalerite, galena, and / or chalcopyrite etc.
"Measured Resource"	A "Measured Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is

	based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.
"Mineral Resource"	A "Mineral Resource" is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilised organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.
"mineralisation"	In geology, mineralisation is the deposition of economically important metals (copper, gold, lead, zin etc) that in some cases can be in sufficient quantity to form mineral ore bodies.
"open pit mining"	A method of extracting minerals from the earth by excavating downwards from the surface such that the ore is extracted in the open air (as opposed to underground mining).
"outcrop"	A section of a rock formation or mineral vein that appears at the surface of the earth. Geologists take direct observations and samples from outcrops, used in geologic analysis and creating geologic maps. In situ (in place) measurements are critical for proper analysis of the geology and mineralisation of the area under investigation.
"polymict"	A geology term, often applied to breccias or conglomerates, which identifies the composition as consisting of fragments of several different rock types.
"Preliminary Economic Assessment"	NI 43-101 defines a PEA as "a study, other than a pre-feasibility study or feasibility study, which includes an economic analysis of the potential viability of mineral resources".
"Pyrrhotite"	Pyrrhotite is an <b>iron sulfide mineral</b> with the formula $Fe(1-x)S$ ( $x = 0$ to $0.2$ ). It is a <b>nonstoichiometric</b> variant of FeS, the mineral known as <b>troilite</b> . Pyrrhotite is also called magnetic <b>pyrite</b>
"Radiometrics"	The radiometric, or gamma-ray spectrometric method is a geophysical process used to estimate concentrations of the radioelements potassium, uranium and thorium by measuring the gamma-rays which the radioactive isotopes of these elements emit during radioactive decay.
"sediments"	Sedimentary rocks formed by the accumulation of sediments. There are three types, Clastic, Chemical and Organic sedimentary rocks.
"sphalerite"	Sphalerite is a zinc sulphide in crystalline form but almost always contains variable iron, with formula $(Zn,Fe)S$ . It can have a yellowish to honey brown or black colour.
"supergene"	Supergene ore processes occur near surface, and form deposits of secondary minerals, such as malachite, azurite, chalcocite, covellite, digenite, etc.
"surface rock chip samples"	Rock chip samples approximately 2kg in size that are typically collected from surface outcrops exposed along rivers and mountain ridgelines.
"syncline"	a trough of stratified rock in which the beds dip toward each other from either side.
"Th"	The element thorium, abundance on surface can be inferred from radiometric surveys
"U"	The element uranium, abundance on surface can be inferred from radiometric surveys
"veins"	A vein is a sheet-like or anastomosing fracture that has been infilled with mineral ore (chalcopyrite, covellite etc) or mineral gangue (quartz, calcite etc) material, within a rock. Veins form when minerals carried by an aqueous solution within the rock mass are deposited through precipitation and infill or coat the fracture faces.
"volcanics"	Volcanic rock such as andesite or basalt that is formed from magma erupted from a volcano, or hot clastic material that erupts from a volcano and is deposited as volcaniclastic or pyroclastics.
"XRF"	Instrument to determine the chemistry of a sample by measuring the fluorescent (or secondary) X-ray emitted from a sample when it is excited by a primary X-ray source



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