# Motheo A1 Satellite Prospect Exploration Update 

First-pass drilling outlines copper-silver mineralisation over a 1.8 km strike

## Highlights

- Extensive structurally controlled copper-silver mineralisation outlined over a 1.8 km strike length at the A1 Dome, 20km from the new Motheo Copper Mine.
- The mineralisation has been drilled on $\sim 200 \mathrm{~m}$ spacings to date and remains open to the northeast along strike, as well as up- and down-dip.
- Highlight results include:
- A1DD005: 11.5m @ 2.0\% Cu and 9g/t Ag from 130.5m
- A1RC009: 8m @ 1.6\% Cu and 3g/t Ag from 120m and
$15 \mathrm{~m} @ 1.4 \% \mathrm{Cu}$ and $20 \mathrm{~g} / \mathrm{t} \mathrm{Ag}$ from 135m
- A1DD003: 9 m @ 0.9\% Cu and $5 \mathrm{~g} / \mathrm{t}$ Ag from 129m and 8.4m @ 1.4\% Cu and 19g/t Ag from 149.6m
- A1RC008: 4 m @ $6.0 \% \mathrm{Cu}$ and $10 \mathrm{~g} / \mathrm{t}$ Ag from 135 m
- A1RC011: 9m @ 1.4\% Cu and 3g/t Ag from 104m
- The recent drilling success at A1 demonstrates the substantial exploration potential of Sandfire's Kalahari Copper Belt landholding, where it is developing an extensive pipeline of exploration opportunities within haulage distance of the new Motheo Production Hub.
- Further work expected at A1 following completion of the current program includes testing of a potential $\sim 4 \mathrm{~km}$ strike extension of the mineralised horizon to the north-east and drilling to test the potential for deeper NPF contact-style mineralisation.
- Sandfire continues to collect high-quality geophysical data to further develop its understanding of the basin architecture in the Kalahari Copper Belt and incorporate these learnings into the Company's regional exploration model.
- A major Airborne Gravity/Gradiometry (AGG) survey across Sandfire's $26,000 \mathrm{~km}^{2}$ tenement holding in the Kalahari Copper Belt is set to commence during the December Quarter of FY2023.

Sandfire Resources Ltd (Sandfire or the Company) is pleased to announce encouraging coppersilver ( $\mathrm{Cu}-\mathrm{Ag}$ ) assay results from recent and ongoing drilling at the A1 prospect, located 20km northeast of the Company's Motheo Copper Mine in the Kalahari Copper Belt (KCB) of Botswana.

Drilling to date has demonstrated the presence of mineralisation over a strike extent of at least 1.8 km , trending northeast-southwest along the A1 Dome. Importantly, the mineralisation intersected in the approximately 200 m spaced drilling completed to date remains open to the north-east, and upand down-dip.

The copper-silver mineralisation at A1 is interpreted to be hosted in a thrust-related vein system, located near-surface at the centre of a periclinal anticline within the D'Kar Formation, a similar geological setting to the T3 and A4 Deposits.

## A1 Exploration Results

The A1 Dome is a $\sim 10 \mathrm{~km}$ long, doubly plunging anticline located 20km north-east of the Motheo Copper Mine, and 25 km north-east along strike from the A4 Deposit (see Figure 1). The area has been a high-priority exploration target since being identified by an airborne electromagnetic (AEM) survey in 2017.

Early reconnaissance drilling by MOD Resources Ltd (MOD) between 2018 and 2019 identified both vein-hosted mineralisation within the D'Kar Formation, and contact-hosted mineralisation between the D'Kar and Ngwako Pan Formations (NPF), two styles of mineralisation seen at the T3 and A4 Domes.

Of the seven holes drilled by MOD, only MO-A1-003D and MO-A1-006D reached the NPF contact, with both returning $+2 \% \mathrm{Cu}$ intersections. MO-A1-005D, drilled approximately halfway along the A1 Dome, ended before reaching the NPF contact and contained a broad zone of disseminated mineralisation that returned $130 \mathrm{~m} @ 0.52 \%$ Cu \& $3.5 \mathrm{~g} / \mathrm{t} \mathrm{Ag}$ from $590 \mathrm{~m}^{1}$.


Figure 1: Regional Location Plan highlighting the A1 Dome within the Motheo Expansion Project Area.
Sandfire has now completed 18 diamond (DD) and 17 Reverse Circulation (RC) drill-holes at the A1 prospect, concentrated along the crest of the A1 Dome. Two of these DD holes were drilled to the north-east, targeting different structural domains along the southern limb of the A1 Dome.

Assays have been received for the first 14 DD and 11 RC holes, with the remaining results expected in early November. These results demonstrate a mineralised strike extent of at least 1.8 km , trending northeast-southwest, along the A1 Dome.

[^0]Significant results include:

| Hole ID | Depth From $(\mathrm{m})$ | Depth to $(\mathrm{m})$ | Interval $(\mathrm{m})$ | Cu $(\%)$ | Ag (g/t) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A1DD003 | 149.6 | 158.0 | $\mathbf{8 . 4}$ | $\mathbf{1 . 4}$ | $\mathbf{1 9}$ |
| A1DD004 | 158.2 | 161.7 | $\mathbf{3 . 5}$ | $\mathbf{3 . 1}$ | $\mathbf{4 1}$ |
| A1DD005 | 130.5 | 142.0 | $\mathbf{1 1 . 5}$ | $\mathbf{2 . 0}$ | $\mathbf{9}$ |
| A1DD006 | 146.4 | 147.0 | $\mathbf{0 . 5}$ | $\mathbf{4 2 . 2}$ | $\mathbf{1 , 0 4 5}$ |
| A1DD010 | 158.0 | 159.5 | $\mathbf{1 . 5}$ | $\mathbf{8 . 7}$ | $\mathbf{4 8}$ |
| A1DD012 | 166.0 | 167.5 | $\mathbf{1 . 5}$ | $\mathbf{9 . 4}$ | $\mathbf{1 7 8}$ |
| A1DD014 | 162.0 | 173.5 | $\mathbf{1 1 . 5}$ | $\mathbf{0 . 7}$ | $\mathbf{1 6}$ |
| A1RC003 | 132.0 | 158.0 | $\mathbf{2 6 . 0}$ | $\mathbf{0 . 9}$ | $\mathbf{0 . 5}$ |
| A1RC008 | 135.0 | 139.0 | $\mathbf{4 . 0}$ | $\mathbf{6 . 0}$ | $\mathbf{1 0}$ |
| A1RC009 | 120.0 | 128.0 | $\mathbf{8 . 0}$ | $\mathbf{1 . 6}$ | $\mathbf{3}$ |
| A1RC009 | 135.0 | 150.0 | $\mathbf{1 5 . 0}$ | $\mathbf{1 . 4}$ | $\mathbf{2 0}$ |
| A1RC011 | 104.0 | 113.0 | $\mathbf{9 . 0}$ | $\mathbf{1 . 4}$ | $\mathbf{3}$ |

Table 1: Summary of significant A1 assay results ( $0.3 \% \mathrm{Cu}$ cut-off and 3 m maximum consecutive internal dilution).
Drilling so far has been concentrated to the south-west of the dome, expanding on the early results generated by MOD's reconnaissance drilling. The newly defined A1 copper-silver mineralisation remains open to the north-east along strike, and up- and down-dip, with $\sim 4 \mathrm{~km}$ of the A1 Dome remaining untested to the north-east.


Figure 2: Plan view of A1 drilling showing selected assay results.
Like the mineralisation at the T3 and A4 Deposits, the structurally controlled A1 copper-silver mineralisation is shallow and interpretation of the results available to date suggests further similarities with the T3 and A4 Deposits.

## A1 Mineralisation

The copper-silver mineralisation defined at A1 occurs as coarse to semi-massive bornite, covellite, chalcocite and chalcopyrite within quartz-carbonate veins, with additional copper sulphides disseminated along bedding planes. Veins are typically bedding-parallel, with minor discordant veins defining breccias of variable scales.

The mineralisation is hosted by a sequence of sandstone, siltstone, and calcareous units within the lower D'Kar Formation that dip to the north-west at $\sim 20^{\circ}$. A number of bedding-parallel shear zones have been recognised; however, these are not always mineralised. Further work will better develop the structural framework and the controls of mineralisation at A1.

Interpretation of available data suggests that mineralised domains are also sub-parallel to bedding. Considering the orientation of the drill-holes with respect to bedding, the reported results are inferred to be close to true width.


Figure 3: Core photographs characterising the style of mineralisation intersected at A1: (a) A1DD005 - Disseminated chalcopyrite, sphalerite and pyrite associated with quartz-calcite shear-veins; (b) A1DD005-Chalcopyrite vein-fill; (c) A1DD006-Semi-massive, vein-in-fill bornite and covellite.

## Ongoing Activities

Two RC holes remain to be drilled as part of the current A1 program. Further drilling of the A1 copper-silver mineralisation will be planned once all assays have been received and internal assessments have concluded.

While recent drilling at A1 has targeted shallow A4 and T3-style copper-silver mineralisation, Sandfire also plans to conduct deeper drilling at the A1 Dome to target NPF contact-style mineralisation, which hosts approximately 6.9 million tonnes of contained copper in mineral resources in the eastern part of the Kalahari Copper Belt resources ${ }^{2}$. The NPF contact remains a priority target at A1 and elsewhere within the project.

## Regional Exploration Update

Regional exploration activities have continued elsewhere across Sandfire's KCB Project. A range of regional and prospect-scale geophysical surveys have been undertaken in 2022, to generate new target areas and refine existing targets for further exploration drilling. These include high-resolution Airborne Magnetics (AMag), IP and Down-hole Electromagnetic surveys (DHEM).

Sandfire is planning an Airborne Gravity Gradiometry (AGG) survey across its entire exploration tenure, the first of its kind to be undertaken in the KCB. This survey, due to commence in November, will represent the single largest geophysical dataset acquired by the Company to date. The AGG survey will provide a high-resolution understanding of density contrasts within the KCB, allowing for detailed mapping of basement architecture and enhanced target generation and testing at regional to prospect scales.

An Environmental Management Plan (EMP) has recently been granted covering Prospecting Licences in the Ngamiland area, about 50km north-east of the Motheo Expansion Project. This will allow Sandfire to commence exploration activities at several high-priority target areas north of Khoemacau Copper Mining's licences and copper deposits. Two additional EMP applications are in progress to permit the remaining three Prospecting Licences without EMP coverage.

Soil sampling teams remain active across the Company's Prospecting Licences and are continuing to define anomalies at locations that are of interest to the Company. Preliminary drill testing has also been undertaken around known mineralisation at the T23 prospect and at the Okwa Project, about 85 km north and 140 km south of Ghanzi respectively.

## Management Comment

Richard Holmes Sandfire's Executive, Growth said: "Our dominant land position in the Kalahari Copper-belt is beginning to demonstrate its pedigree with the discovery of the A1 mineral system. Our patient approach to exploration, with the collection of regional scale datasets and their integration into a holistic exploration model, is delivering positive results.
"While the A1 system is still emerging and more drilling is required to understand its potential, it's pleasing to have success so close to our existing infrastructure, with the Motheo Copper Mine only 20 km away. Our current project generation work is delivering a pipeline of targets within sight of the headframe, which we will be testing over the coming months."

- ENDS -

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This announcement is authorised for release by Sandfire's Acting CEO, Jason Grace.

## Competent Peron's Statement

## Exploration Results

The information in this report that relates to Exploration Results at the A1 Prospect, is based on information compiled by Mr Richard Holmes who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Holmes is a permanent employee of Sandfire and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Holmes consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## Forward-Looking Statements

Certain statements made during or in connection with this release contain or comprise certain forward-looking statements regarding Sandfire's Mineral Resources and Reserves, exploration and project development operations, production rates, life of mine, projected cash flow, capital expenditure, operating costs and other economic performance and financial condition as well as general market outlook. Although Sandfire believes that the expectations reflected in such forward-looking statements are reasonable, such expectations are only predictions and are subject to inherent risks and uncertainties which could cause actual values, results, performance or achievements to differ materially from those expressed, implied or projected in any forward looking statements and no assurance can be given that such expectations will prove to have been correct.

Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic and market conditions, delays or changes in project development, success of business and operating initiatives, changes in the regulatory environment and other government actions, fluctuations in metals prices and exchange rates and business and operational risk management.

Except for statutory liability which cannot be excluded, each of Sandfire, its officers, employees and advisors expressly disclaim any responsibility for the accuracy or completeness of the material contained in these forward-looking statements and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in forward-looking statements or any error or omission. Sandfire undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events other than required by the Corporations Act and ASX Listing Rules. Accordingly, you should not place undue reliance on any forward-looking statement.

Appendix 1: Drill Collar Information (WGS84 34S)

| Hole ID | Hole Type | Hole Depth | Easting | Northing | RL | Dip | Azimuth |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A1DD001 | DD | 297.3 | 652276.3 | 7653455 | 1065 | -60 | 150 |
| A1DD002 | DD | 230.65 | 652233.7 | 7653535 | 1064 | -60 | 150 |
| A1DD003 | DD | 350.85 | 652404.7 | 7653638 | 1064 | -60 | 150 |
| A1DD004 | DD | 224.75 | 652493 | 7653683 | 1064 | -60 | 150 |
| A1DD005 | DD | 224.75 | 652666.5 | 7653779 | 1064 | -60 | 150 |
| A1DD006 | DD | 230.75 | 652925.4 | 7653927 | 1063 | -60 | 150 |
| A1DD007 | DD | 234.3 | 653102.2 | 7654020 | 1063 | -60 | 150 |
| A1DD008 | DD | 314.75 | 653232.7 | 7654206 | 1063 | -60 | 150 |
| A1DD009 | DD | 221.75 | 652538.4 | 7653598 | 1065 | -60 | 150 |
| A1DD010 | DD | 236.75 | 653461.1 | 7654198 | 1063 | -60 | 150 |
| A1DD011 | DD | 236.85 | 652457.3 | 7653733 | 1064 | -60 | 150 |
| A1DD012 | DD | 230.75 | 652889 | 7653985 | 1063 | -60 | 150 |
| A1DD013 | DD | 606.45 | 653942 | 7654764 | 1061 | -60 | 150 |
| A1DD014 | DD | 284.85 | 653063.1 | 7654086 | 1063 | -60 | 150 |
| A1DD015 | DD | 275.85 | 654228.3 | 7654870 | 1061 | -60 | 150 |
| A1DD016 | DD | 647.85 | 655091 | 7655172 | 1061 | -65 | 330 |
| A1DD017 | DD | 743.85 | 657395 | 7655373 | 1085 | -70 | 330 |
| A1DD018 | DD | 600 | 658324 | 7655284 | 1085 | -65 | 330 |
| A1RC001 | RC | 199 | 653731.2 | 7654527 | 1062 | -65 | 150 |
| A1RC002 | RC | 209 | 653436.9 | 7654240 | 1063 | -65 | 150 |
| A1RC003 | RC | 235 | 653290.5 | 7654097 | 1063 | -65 | 150 |
| A1RC004 | RC | 236 | 653264.8 | 7654140 | 1063 | -65 | 150 |
| A1RC005 | RC | 240 | 653808.7 | 7654398 | 1062 | -65 | 150 |
| A1RC006 | RC | 248 | 654502 | 7654796 | 1061 | -65 | 150 |
| A1RC007 | RC | 177 | 654450.1 | 7654886 | 1061 | -65 | 150 |
| A1RC008 | RC | 156 | 653782.7 | 7654442 | 1063 | -65 | 150 |
| A1RC009 | RC | 235 | 652742.9 | 7653843 | 1064 | -70 | 150 |
| A1RC010 | RC | 253 | 652769.3 | 7653798 | 1064 | -70 | 150 |
| A1RC011 | RC | 250 | 653142 | 7653954 | 1063 | -65 | 150 |
| A1RC012 | RC | 198 | 653481 | 7654150 | 1063 | -65 | 150 |
| A1RC013 | RC | 150 | 653506 | 7654107 | 1063 | -65 | 150 |
| A1RC014 | RC | 150 | 653160 | 7653904 | 1063 | -65 | 150 |
| A1RC015 | RC | 245 | 653605 | 7654333 | 1063 | -65 | 150 |
| A1RC016 | RC | 225 | 653654 | 7654252 | 1063 | -65 | 150 |
| A1RC017 | RC | 225 | 654126 | 7654637 | 1063 | -65 | 150 |

Appendix 2: Assay results ( $0.3 \%$ Cu cut-off, 3 m maximum consecutive internal dilution)

| Hole ID | Depth From (m) | Depth To (m) | Interval (m) | Cu (\%) | Ag (g/t) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A1DD003 | 129 | 138 | 9 | 0.90 | 4.98 |
| A1DD003 | 149.64 | 158 | 8.36 | 1.39 | 19.42 |
| A1DD003 | 166.7 | 168.78 | 2.08 | 0.92 | 11.07 |
| A1DD003 | 183 | 186.38 | 3.38 | 1.48 | 59.21 |
| A1DD004 | 121.8 | 126.1 | 4.3 | 1.15 | 7.06 |
| A1DD004 | 133 | 134.45 | 1.45 | 4.49 | 57.14 |
| A1DD004 | 140 | 148.5 | 8.5 | 0.49 | 2.49 |
| A1DD004 | 152.7 | 153.6 | 0.9 | 4.09 | 52.40 |
| A1DD004 | 158.25 | 161.75 | 3.5 | 3.06 | 41.17 |
| A1DD004 | 166 | 168.5 | 2.5 | 0.40 | 4.39 |
| A1DD005 | 117 | 119 | 2 | 0.89 | 3.75 |
| A1DD005 | 123 | 126 | 3 | 1.94 | 0.19 |
| A1DD005 | 130.51 | 142 | 11.49 | 1.97 | 8.80 |
| A1DD005 | 154 | 157 | 3 | 0.39 | 10.97 |
| A1DD005 | 161 | 163.49 | 2.49 | 1.94 | 24.35 |
| A1DD006 | 146.48 | 147 | 0.52 | 42.20 | 1045.00 |
| A1DD007 | 99.83 | 102.22 | 2.39 | 1.98 | 2.71 |
| A1DD007 | 113.5 | 122.65 | 9.15 | 0.67 | 1.75 |
| A1DD007 | 138.82 | 139.22 | 0.4 | 4.38 | 2.60 |
| A1DD007 | 147 | 147.4 | 0.4 | 4.74 | 64.80 |
| A1DD007 | 167.45 | 168 | 0.55 | 4.17 | 7.30 |
| A1DD007 | 186 | 187.7 | 1.7 | 0.91 | 14.25 |
| A1DD008 | 150 | 151 | 1 | 1.08 | 0.80 |
| A1DD008 | 201 | 206 | 5 | 0.34 | 6.62 |
| A1DD010 | 128.29 | 130.05 | 1.76 | 3.67 | 15.48 |
| A1DD010 | 134 | 136 | 2 | 0.60 | 1.40 |
| A1DD010 | 152 | 153 | 1 | 3.55 | 6.50 |
| A1DD010 | 158 | 159.47 | 1.47 | 8.71 | 48.28 |
| A1DD010 | 199.65 | 203 | 3.35 | 0.61 | 1.48 |
| A1DD011 | 143.56 | 148 | 4.44 | 1.20 | 8.23 |
| A1DD011 | 156 | 157.83 | 1.83 | 1.44 | 15.06 |
| A1DD011 | 203 | 205 | 2 | 2.68 | 39.98 |
| A1DD012 | 145.4 | 149 | 3.6 | 0.39 | 0.14 |
| A1DD012 | 155.91 | 159 | 3.09 | 0.45 | 7.97 |

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| Hole ID | Depth From (m) | Depth To (m) | Interval (m) | Cu (\%) | Ag (g/t) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A1DD012 | 166 | 167.5 | 1.5 | 9.44 | 177.67 |
| A1DD013 | 407.9 | 408.3 | 0.4 | 9.44 | 11.40 |
| A1DD013 | 439 | 442 | 3 | 1.17 | 16.52 |
| A1RC003 | 101 | 106 | 5 | 0.42 | 1.88 |
| A1DD014 | 147 | 149 | 2 | 1.15 | 2.33 |
| A1DD014 | 162 | 173.47 | 11.47 | 0.71 | 16.16 |
| A1DD014 | 188 | 189 | 1 | 0.31 | 1 |
| A1DD014 | 217 | 223 | 6 | 0.30 | 0.25 |
| A1RC003 | 132 | 158 | 26 | 0.93 | 0.49 |
| A1RC004 | 162 | 169 | 7 | 0.58 | 0.26 |
| A1RC005 | 136 | 147 | 11 | 0.43 | 1.15 |
| A1RC008 | 135 | 139 | 4 | 6.02 | 10.05 |
| A1RC009 | 120 | 128 | 8 | 1.56 | 3.44 |
| A1RC009 | 135 | 150 | 15 | 1.41 | 20.16 |
| A1RC010 | 88 | 89 | 1 | 0.44 | 1 |
| A1RC010 | 91 | 92 | 1 | 0.32 | 0.9 |
| A1RC010 | 100 | 105 | 5 | 0.53 | 11.60 |
| A1RC010 | 109 | 110 | 1 | 0.34 | 0.25 |
| A1RC010 | 115 | 137 | 22 | 0.61 | 6.34 |
| A1RC010 | 155 | 156 | 1 | 0.54 | 0.25 |
| A1RC011 | 93 | 100 | 7 | 0.72 | 2.53 |
| A1RC011 | 104 | 113 | 9 | 1.37 | 3.09 |
| A1RC011 | 128 | 129 | 1 | 0.90 | 5.5 |

## Appendix 3: JORC 2012 Code

| Criteria | JORC Code Explanation | Commentary |
| :---: | :---: | :---: |
| Sampling techniques | Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. | Sampling boundaries of diamond drill core (DD) are geologically defined and commonly one metre in length unless a significant geological feature warrants a change from this standard unit. The minimum sample length of drill core is 0.3 m and the maximum length is 1.2 m . <br> Reverse Circulation (RC) samples are taken on a 1 m basis. |
|  | Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. | Sampling of DD core and RC chips is completed using Sandfire sampling protocols and QAQC procedures as per industry standard. RC chips are sampled using a riffle splitter with samples typically weighing between $2-3.5 \mathrm{~kg}$. |
|  | 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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information. | The determination of mineralisation is based on observed sulphides and lithological differences. <br> DD core samples were taken from HQ and NQ core and cut longitudinally in half using a diamond drill core saw. RC chips are sampled using a riffle splitter. All samples are pulverised via LM2 to nominal $85 \%$ passing $-75 \mu$ m. Pulp charges of 0.25 g are prepared using a four-acid digest and an ICP-AAS finish. |
| Drilling techniques | Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.). | DD drillholes used HQ3 ( 63.5 mm ) and $\mathrm{NQ}(47.6 \mathrm{~mm})$ core size (standard tubes). Core orientation is completed when possible, using the Boart Longyear TrueCore Tool. <br> RC holes are drilled using a $51 / 2$ inch bit and face sampling hammer. |
| Drill sample recovery | Method of recording and assessing core and chip sample recoveries and results assessed. | DD recoveries were quantitatively recorded using length measurements of core recoveries per-run. Core recoveries routinely exceeded $95 \%$ below transported cover. <br> RC samples were visually assessed for recoveries and were generally good. Where recoveries were poor, no sample was collected. |
|  | Measures taken to maximise sample recovery and ensure representative nature of the samples. | Core is meter marked and orientated to check against the driller's blocks, ensuring that all core loss is considered. |
|  | 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 sample recovery issues are believed to have impacted on potential sample bias. |


| Criteria | JORC Code Explanation | Commentary |
| :---: | :---: | :---: |
| 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 | Geological logging is completed for all holes. The major rock unit (colour, grain size, texture), weathering, alteration (style and intensity), mineralisation (type), structural (type \& orientation), interpreted origin of mineralisation, estimation of \% sulphides/oxides, and veining (type, style, origin, intensity) are logged following Sandfire standard procedures. <br> Data is recorded and validated using geological logging software and imported to the central database. |
|  | Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. | Logging is both qualitative and quantitative depending on the data being logged. All DD core and RC chips are photographed. |
|  | The total length and percentage of the relevant intersections logged. | All drill holes are fully logged. |
|  | If core, whether cut or sawn and whether quarter, half or all core taken. | Longitudinally cut half core samples are produced using a core saw. |
|  | If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. | RC samples are taken using a riffle splitter. Any wet sample is allowed to dry prior to riffle splitting. |
| Sub-sampling techniques and sample preparation | For all sample types, the nature, quality and appropriateness of the sample preparation technique. | Samples were submitted to the Botswana on-site preparation facility managed by ALS. Samples are first crushed in their entirety to $70 \%<2 \mathrm{~mm}$ using a jaw crusher. The entire samples are then milled to $85 \%$ passing $75 \mu \mathrm{~m}$. <br> The procedure is considered to represent industry standard practices and are considered appropriate for the style of mineralisation. |
|  | Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. | For sample preparation, every 20th sample prepared at both the coarse crush, and milling stages is screened for consistency. Any failure triggers the re-crush/mill of the previous three samples. If any one of those samples should also fail, then the entire submitted batch is re-crushed/milled. Between each batch the coarse crushing equipment is cleaned using blank quartz material. LM2 ring mills are cleaned with acetone and compressed air between each sample. |
|  | 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. | Duplicate analysis of pulp samples has been completed and identified no issues with sampling representativity with assays showing a high level of correlation. |
|  | Whether sample sizes are appropriate to the grain size of the material being sampled. | The sample size is considered appropriate for the mineralisation style. |
| 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. | Samples analysed by ALS Laboratories Johannesburg, using ALS method ME ICP61 for total Cu and 32 other elements, with an over-range trigger to ME-OG62 for high-grade ore elements, including $\mathrm{Cu}, \mathrm{Pb}$, and Zn . Pulp charges of 0.25 g are prepared using a four-acid digest and an ICP-AAS finish. |


| Criteria | JORC Code Explanation | Commentary |
| :---: | :---: | :---: |
|  | 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. | No geophysical tools were used to analyse the drilling products. |
|  | Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. | Precision and accuracy were monitored throughout their sample chain of custody through the use of pulp duplicates, and the insertion of certified reference materials (CRMs) and blanks into the sample stream. <br> CRMs are sourced from Ore Research Laboratories in Australia, and except for blank material, span a range of Cu grades appropriate to the A 1 project mineralisation. <br> Analysis of duplicate samples shows acceptable repeatability and no significant bias. |
| Verification of sampling and assaying | The verification of significant intersections by either independent or alternative company personnel. | Significant intersections have been verified by suitably qualified company personnel. |
|  | The use of twinned holes. | There are no twinned holes drilled. |
|  | Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. | Logging data (including geotechnical parameters) are captured into geological logging software before being imported into the Sandfire Resources SQL database. The SQL server database is configured for optimal validation through constraints, library tables, triggers and stored procedures. Data that fails these rules on import is rejected or quarantined until it is corrected. |
|  | Discuss any adjustment to assay data. | The primary data is always kept and is never replaced by adjusted or interpreted 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. | Drillholes are initially set-out prior to drilling using a handheld global positioning system (GPS). Subsequent to completion, holes are capped and marked with a marker peg. <br> Periodically, collar locations are surveyed by Sandfire Surveyors using an RTKGPS system, which provides sub-decimetre accuracy. Downhole surveying is completed on all drillholes via north-seeking gyroscopic survey tools. |
|  | Specification of the grid system used. | Collars are marked out and picked up in the Botswanan National Grid in UTM format (WGS84_34S). |
|  | Quality and adequacy of topographic control | Topographic control is provided by the GPS survey system used for collar pickup. The topography of the A1 project area is very flat, and significant variations in topography within the project are not significant. The topographic control is considered fit for purpose. |
| Data spacing and distribution | Data spacing for reporting of Exploration Results. | Drill spacings vary across the A1 project with sections spacings of $100 \mathrm{~m}-400 \mathrm{~m}$ and holes spacings of $50 \mathrm{~m}-100 \mathrm{~m}$. |


| Criteria | JORC Code Explanation | Commentary |
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|  | Whether the data spacing and distribution is sufficient to establish the degree of <br> geological and grade continuity appropriate for the Mineral Resource and Ore <br> Reserve estimation procedure(s) and classifications applied. | No mineral resource or ore reserve estimations have been reported. |
|  | Whether sample compositing has been applied. | No sample compositing is applied during the sampling process. |
|  | Whether the orientation of sampling achieves unbiased sampling of possible <br> structures and the extent to which this is known, considering the deposit type. | Preliminary interpretations suggest that mineralised domains are sub-parallel to <br> bedding. Considering the orientation of drilling with respect to bedding, the reported <br> results are inferred to be close to true widths. |
|  | If the relationship between the drilling orientation and the orientation of key <br> mineralised structures is considered to have introduced a sampling bias, this should <br> be assessed and reported if material. | No significant sampling bias is believed to occur based on the available structural <br> data. |
|  | The measures taken to ensure sample security. | Samples are collected at the end of each shift by Tshukudu Exploration staff and <br> driven directly from the drill rig to the storage and logging facility in Ghanzi. This <br> facility is a secure compound. <br> Samples are prepared to pulp stage on-site within a purpose built, commercially <br> operated facility (ALS Laboratories). Samples are dispatched to ALS Johannesburg <br> for analysis. Sample security is not considered to be a significant risk to the A1 <br> project. |
| Audits or reviews | The results of any audits or reviews of sampling techniques and data. | The sampling techniques and data collection processes are of industry standard <br> and have been subjected to internal reviews by Sandfire personal. |

## Section 2: Reporting of Exploration Results

| Criteria | JORC Code Explanation | Commentary |
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| 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. | Sandfire, through their $100 \%$ ownership of Botswanan company Tshukudu Metals Botswana (Pty) Ltd, hold prospecting license PL190/2008 as part of a larger tenement package. This license, on which A1 occurs, was renewed on 1st October 2020 and is valid till 30th September 2022. <br> UK-listed company Metal Tiger Plc. holds a US $\$ 2.0$ million capped Net Smelter Royalty over the Company's T3 Copper Project in Botswana. Metal Tiger Plc also holds an uncapped 2\% Net Smelter Royalty over 8,000 $\mathrm{km}^{2}$ of the Company's Botswana exploration license holding in the Kalahari Copper Belt. This uncapped royalty covers the area subject to the historical Tshukudu joint venture with MOD Resources Ltd and includes PL190/2008, which hosts the A1 prospect area. |
|  | 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. | There are no known impediments to obtaining a license to operate in the area. |
| Exploration done by other parties | Acknowledgment and appraisal of exploration by other parties. | Limited previous exploration has occurred in the A1 project area, apart from widely spaced soil sampling conducted by Discovery Mining, and 7 diamond drill holes completed by Tshukudu Exploration on behalf of MOD Resources Ltd during 2018 and 2019. |
| Geology | Deposit type, geological setting and style of mineralisation. | The A1 project occurs within the Ghanzi-Chobe belt in Western Botswana. The stratigraphy in this belt comprises the basal Kgwebe Formation meta-volcanic lithofacies unconformably overlain by the Ghanzi Group sedimentary lithofacies. <br> The Ghanzi Group is a dominantly siliciclastic marine sedimentary group comprising (in successively higher stratigraphic order), the Kuke, N'gwako Pan, D'Kar and Mamuno Formation sedimentary lithofacies. The Ghanzi Group is an overall fining-upwards succession of sedimentary lithofacies, with sandstone and conglomerates of the Kuke Formation overlain by arkose, siltstone, shale and limestone of the N'Gwako Pan, D'Kar and Mamuno Formations. <br> The A1 project occupies a similar structural and stratigraphic setting to that of the T3-Motheo and A4 deposits, in that it occurs within a NE-SW trending periclinal anticline with a core of N'Gwako Pan Formation, overlain by a succession of D'Kar Formation sediments. <br> The Cu-Ag mineralisation being reported from A 1 is developed within bedding parallel veining and within shear zones. Copper sulphides including bornite, chalcocite and chalcopyrite are associated with quartz-carbonate veins developed by flexural slip or sub-parallel to the shear foliation. |

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| Criteria | JORC Code Explanation | Commentary |
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| Drillhole information | A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes: <br> - Easting and northing of the drillhole collar <br> - Elevation or RL (Reduced Level - elevation above sea level in metres) of the drillhole collar <br> - Dip and azimuth of the hole <br> - Downhole length and interception depth <br> - Hole length. <br> 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. | Information relating to the collar parameters of the drill holes described in this announcement are listed in Appendix 1 of the announcement. A summary of all material information and the results of the completed holes described in this announcement are included in this announcement. |
| Data aggregation methods | In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. <br> 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. <br> The assumptions used for any reporting of metal equivalent values should be clearly stated. | Significant copper and silver intersections are compiled by Sandfire when assay results are received from the laboratory using a weighted average to account for varying sample lengths. The intersections reported from A1 were calculated using a cut-off of $0.3 \%$ Cu with 3 m of consecutive downhole dilution allowed. <br> The vein-hosted style of Cu -Ag mineralisation intersected in drill holes reported in this announcement, commonly include high-grade vein hosted mineralisation and surrounding low-grade disseminated sulphide mineralisation. <br> No high-grade cut is applied. <br> No metal equivalent values are used for reporting exploration results. |
| Relationship between mineralisation widths and intercept lengths | These relationships are particularly important in the reporting of Exploration Results. <br> If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. <br> If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). | All intersections are reported as down-hole widths. <br> True widths are currently not known and additional drilling will allow true widths to be estimated as geological knowledge of the mineralisation develops. |
| 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. | Relevant maps and diagrams are included in the body of the 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. | The accompanying document is considered to be a balanced report. |


| Criteria | JORC Code Explanation | Commentary |
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| Other substantive <br> exploration data | Other exploration data, if meaningful and material, should be reported including (but <br> not limited to): <br> suoplogical observations; geophysical survey results; geochemical <br> survey results; bulk samples - size and method of treatment; metallurgical test <br> results; bulk density, groundwater, geotechnical and rock characteristics; potential <br> deleterious or contaminating substances. | All substantive data is reported. |
| Further work | The nature and scale of planned further work (e.g. tests for lateral extensions or <br> depth extensions or large-scale step-out drilling). <br> Diagrams clearly highlighting the areas of possible extensions, including the main <br> geological interpretations and future drilling areas, provided this information is not <br> commercially sensitive. | Drilling is ongoing at the A1 project with one RC rig operating. Further drilling of the <br> A1 mineralisation will be planned once all remaining assays have been received <br> and internal assessments are completed. <br> Mineralisation remains open along strike to the northeast, as well as up and down <br> dip on most sections. |


[^0]:    ${ }^{1}$ Refer to MOD Resources Ltd's ASX announcement titled 'A1 Dome Delivers Significant Copper in Initial Drilling', dated 15 November 2018 for details.

[^1]:    ${ }^{2}$ Khoemacau Copper Mining (www.khoemacau.com).

