# ASX MEDIA RELEASE

Havilah Resources
A New Mining Force in South Australia

27 May 2024

## MOLYBDENUM DISCOVERY NEAR KALKAROO - UPDATED

At the request of ASX, Havilah Resources Limited has updated its announcement of 21 May 2024.

The principal changes are:

1. Removal of % Mo expressed as CuEq due to the absence of metallurgical data for this prospect that shows molybdenum would be recoverable and if so, whether molybdenum and copper would have similar recoveries.
2. Inclusion of a table showing the reported significant drilling intersections and including a note that states the minimum thickness and grade parameters used in defining the reported significant drilling intersections.

This release has been authorised on behalf of the Havilah Resources Limited Board by Mr Simon Gray.

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21 May 2024

# MOLYBDENUM DISCOVERY NEAR KALKAROO - UPDATED

## HIGHLIGHTS

- 30 metres of 0.21% molybdenum and 5 metres of 4.79 g/t gold in exploration drillholes at the North Dome Closure (**NDC**) prospect, 10 km north-northwest of Kalkaroo.
- Associated with low grade copper, gold, uranium and heavy rare earth element mineralisation in a north-plunging dome structure similar to Kalkaroo.

Havilah Resources Limited (**Havilah** or the **Company**) (**ASX**: **HAV**) is pleased to report the discovery of significant molybdenum and gold mineralisation at the NDC prospect, lying 10 km north-northwest of the Kalkaroo deposit in the Curnamona Province of northeastern South Australia.

A reverse circulation (**RC**) drillhole KKRC0694 on the east-dipping eastern flank of the dome intersected:

**30 metres of 0.21% molybdenum** from 150 metres (Figure 1) plus associated copper up to 0.32%, gold up to 0.82 g/t, uranium up to 295 ppm and yttrium and dysprosium (higher value heavy rare earth elements) up to 308 ppm and 39 ppm respectively, over 1-3 metre intervals.

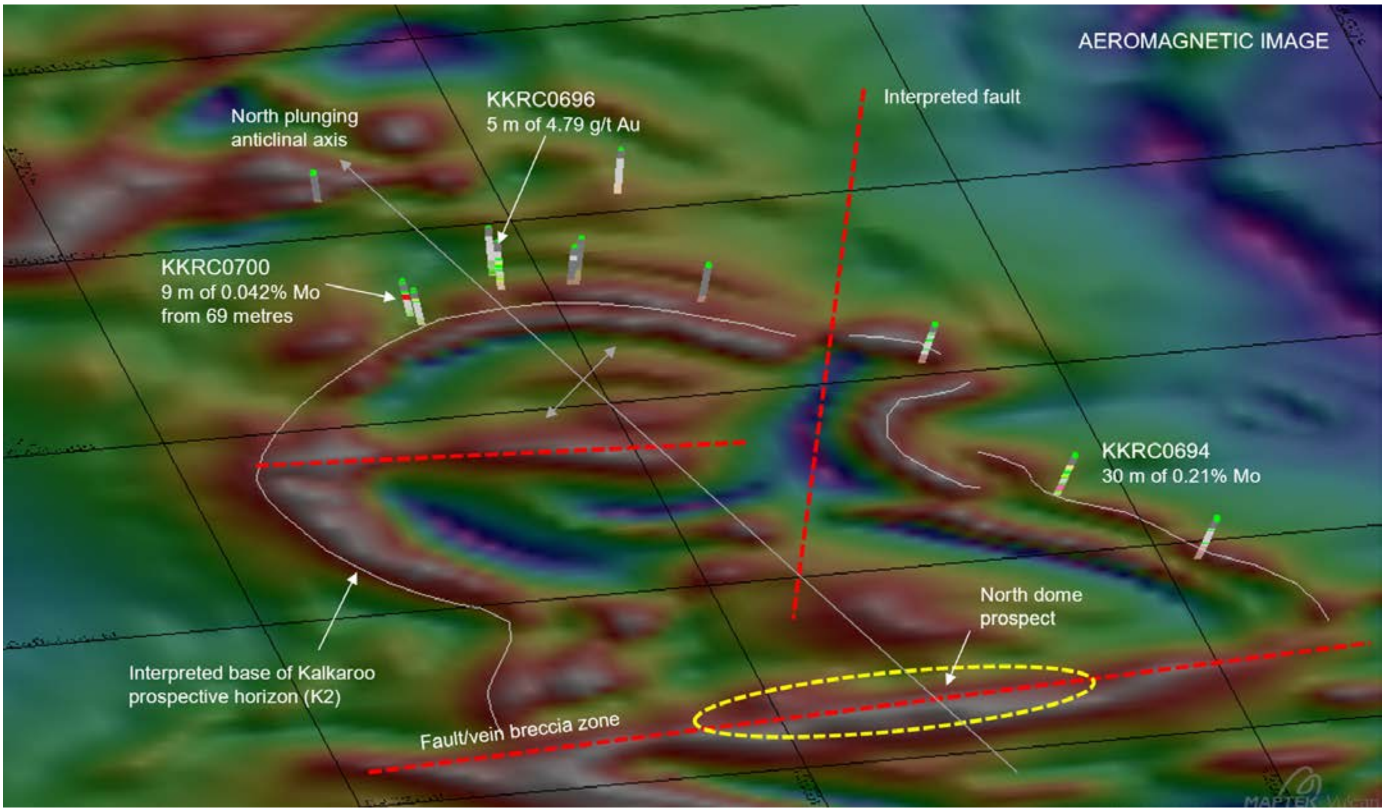


**Figure 1** *3D oblique view of the NDC prospect showing locations of drillholes referred to in the text. The white line shows the interpreted position of the Kalkaroo prospective horizon (K2 unit) that was the target of Havilah's recent drilling on the north-plunging anticlinal closure. Several interpreted faults are shown (red dashed lines), including the roughly east-west trending fault/vein breccia zone that hosts the gold and copper mineralisation at the North Dome prospect (refer to ASX announcement of 16 November 2023). The grid in black is 2 km x 2 km.*

RC drillhole KKRC0696 near the northern apex of the dome returned:

**5 metres of 4.79 g/t gold** from 71 metres, plus associated copper up to 0.19% over 1-2 metre intervals.

12 RC drillholes were completed at the NDC prospect based on a similar structural setting to Kalkaroo, namely a north-plunging dome, and also elevated base of hole copper assays in previous historic Newcrest aircore drilling. 10 RC drillholes in this program targeted the interpreted position of the Kalkaroo prospective horizon (**K2 unit**) based on the aeromagnetic data and two targeted other magnetic and airborne electromagnetic features in the hangingwall unit (Figure 1). Downhole magnetic susceptibility readings and drill logs indicated that 6 of these holes appeared to intersect the K2 unit hosted stratabound mineralisation and continued on into the more magnetic footwall unit. This included the two drillholes for which results are reported here, namely KKRC0694 and KKRC0696.

**Commenting on the NDC drilling results, Havilah's Technical Director, Dr Chris Giles said:**

"We were following up widespread anomalous copper results in earlier shallow 1997 Newcrest aircore drilling, so discovery of the 30 metre interval of molybdenum mineralisation and the high grade gold were both pleasant surprises. Low grade copper mineralisation is mostly present in the K2 unit at this location.

"Molybdenum grades of 0.21% would be considered as exceptional compared with the sub-0.05% resource grades in many of the large porphyry deposits, which are currently the chief source of molybdenum.

"This, combined with the approximately 12 km of untested K2 unit prospective strike around the dome, highlights the discovery possibilities at the NDC prospect, including for the hitherto unexpected molybdenum."

**About molybdenum**

Molybdenum is identified as a critical mineral on the Australian Government's Critical Minerals List 2023 update where it is noted that it is "primarily used to increase the strength, hardness and corrosion resistance of alloys. Molybdenum alloys are widely used as a refractory metal in chemical applications and in structural steel, aircraft and automobile parts." Molybdenum's ability to prevent brittleness and failure of steel exposed to hydrogen indicates future potential demand in specialised steel alloys for the nascent hydrogen industry.

The molybdenum price is historically volatile having reached more than US$90,000/tonne during February 2023 from a low of near US$17,000/tonne during August 2020. Its spot price currently sits at near US$69,000/tonne having risen roughly 60% since January 2024.

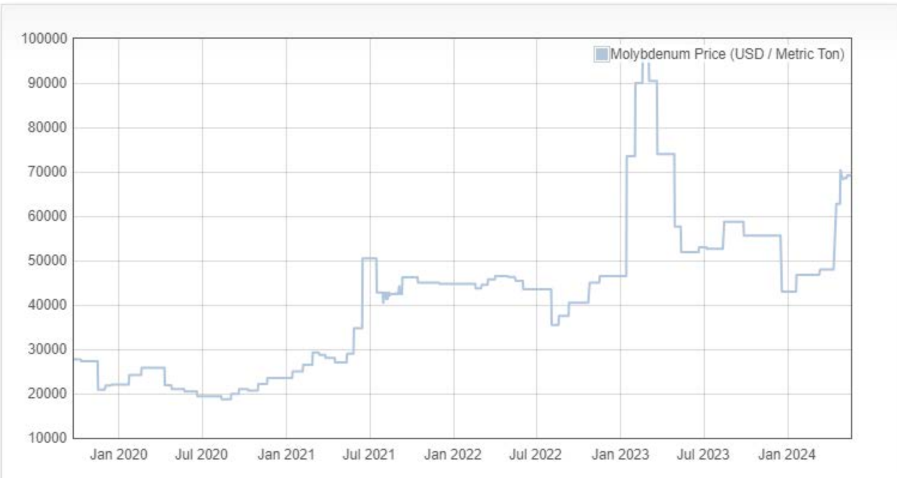


**Figure 2** *Historic molybdenum prices (with acknowledgement to dailymetalprice.com).*

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**Cautionary Statement**
This announcement contains certain statements which may constitute 'forward-looking statements'. Such statements are only predictions and are subject to inherent risks and uncertainties which could cause actual values, performance or achievements to differ materially from those expressed, implied, or projected in any forward-looking statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

**Competent Person's Statements**
The information in this announcement that relates to Exploration Results is based on data and information compiled by geologist Dr Chris Giles, a Competent Person who is a member of The Australian Institute of Geoscientists. Dr Giles is Technical Director of the Company, a full-time employee and is a substantial shareholder. Dr Giles has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of *'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'*. Dr Giles consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

This announcement contains references to prior Exploration Results, all of which have been cross-referenced to previous ASX announcements made by Havilah. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant ASX announcements.

# Appendix 1

Sections 1 and 2 below provide a description of the sampling and assaying techniques in accordance with Table 1 of The Australasian Code for Reporting of Exploration Results.

**Significant drilling intersections table**

| Hole Number | Easting | Northing | RL | Azi | Dip | EOH (m) | From (m) | To (m) | Width (m) | Assay | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Cu % | Au g/t | Mo % |
| **KKRC0694** | 451814 | 6494760 | 117.2 | 270 | -65 | 204 | 150 | 180 | 30 | 0.038 | 0.03 | 0.21 |
| including | | | | | | | 162 | 164 | 2 | 0.32 | 0.06 | 0.15 |
| **KKRC0696** | 449832 | 6497537 | 115.2 | 180 | -65 | 210 | 71 | 76 | 5 | 0.093 | 4.79 | 0.005 |
| and | | | | | | | 131 | 133 | 2 | 0.16 | 0.06 | 0.002 |
| and | | | | | | | 181 | 182 | 1 | 0.19 | 0.15 | 0.003 |
| **KKRC0700** | 449341 | 6497239 | 104 | 158 | -65 | 156 | 69 | 78 | 9 | 0.047 | 0.10 | 0.042 |
| Datum: AGD66 Zone 54<br>Note: All azimuths and dips are as measured at surface; deviations from this typically occur at depth. | | | | | | | | | | | | |

Significant intersections reported for Mo contain no individual 1 metre assays < 100 ppm Mo (applicable to drillholes KKRC0694 and KKRC0700). Significant intersections reported for Au contain no 2 metre composite assays < 0.75 g/t Au (applicable to drillhole KKRC0696).

**Section 1 Sampling Techniques and Data**

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Sampling techniques*** | • *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | • Sample data was derived from reverse circulation (RC) drillholes as documented in the table above.<br>• RC samples were collected at 1 metre intervals and laid out in rows.<br>• RC assay samples averaging 2-3kg were split at 1m intervals into pre-numbered calico bags, using a riffle splitter mounted on the cyclone of the drill rig.<br>• The calico bags were packed into polyweave bags by Havilah staff for shipment to the assay lab in Adelaide.<br>• This table refers only to the recent Havilah RC drillholes. |
| ***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).* | • All RC holes were drilled with a face sampling hammer bit. All samples were collected via riffle splitting directly from the cyclone. |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *Whether a relationship exists between* | • The sample yield and quality of the RC samples was routinely recorded in drill logs.<br>• The site geologist and Competent Person consider that overall the results are acceptable for interpretation purposes. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | • No evidence of significant sample bias due to preferential concentration or depletion of fine or coarse material was observed.<br>• No evidence of significant down hole or inter-sample contamination was observed.<br>• Sample recoveries were continuously monitored by the geologist on site and adjustments to drilling methodology were made in an effort to optimise sample recovery and quality where necessary. |
| ***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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | • All RC samples were logged by an experienced exploration geologist using in-house software on a tough field tablet. The logs were then approved and uploaded to a remote Excel database.<br>• All RC chip sample trays and some representative samples are stored on site.<br>• Logging is semi-quantitative and 100% of reported intersections have been logged.<br>• Logging is of a sufficiently high standard to support any subsequent interpretations, resource estimations and mining and metallurgical studies. |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half* | • RC drill chips were received directly from the drilling rig via a cyclone and were riffle split on 1 metre intervals to obtain 2-3 kg samples.<br>• Sampling size is considered to be appropriate for the style of mineralisation observed. Assay repeatability for copper, gold and other metals has not proven to be an issue in the past and is checked with regular duplicates.<br>• All Havilah samples were collected in numbered calico bags that were sent to BV assay lab in Adelaide.<br>• At BV assay lab the samples are crushed in a jaw crusher to a nominal 10mm |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *sampling.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | (method PR102) from which a 3kg split is obtained using a riffle splitter. The split is pulverized in an LM5 to minimum 85% passing 75 microns (method PR303). These pulps are stored in paper bags.<br>• All samples were analysed for gold by 40g fire assay, with AAS finish using BV method FA001 and a range of other metals by BV methods MA101 and 102 (not reported here).<br>• All sample pulps are retained by Havilah so that check or other elements may be assayed using these pulps in the future. |
| ***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.*<br>• *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.*<br>• *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.* | • Fire assay method FA001 is a total gold analysis.<br>• Assay data accuracy and precision was continuously checked through submission of field and laboratory standards, blanks and repeats which were inserted at a nominal rate of approximately 1 per 25 drill samples.<br>• Assay data for laboratory standards and repeats have been previously statistically analysed and no material issues were noted. |
| ***Verification of sampling and assaying*** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Rigorous internal QC procedures are followed to check all assay results.<br>• Twinned holes are generally not used or considered to be justified at the exploration stage.<br>• All data entry is under control of the responsible geologist, who is responsible for data management, storage and security.<br>• No adjustments to assay data are carried out. |
| ***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* | • The holes were not surveyed using an electronic downhole camera.<br>• Present drillhole collar coordinates were surveyed in UTM coordinates |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *estimation.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | using a GPS system with an x:y:z accuracy of <5m and are quoted in AGD66 Zone 54 datum. A digital GPS system will be used in due course to obtain final drillhole coordinates with mm accuracy.<br>• Regional topographic control is established by DTM data points from detailed aeromagnetic surveys, which is sufficiently accurate at the exploration stage. |
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • The RC drillholes were positioned at appropriate spacing to test down dip of the interpreted projection of the potentially mineralised target.<br>• Data spacing (drillhole spacing) is variable and appropriate to the geology. As this is an exploration project, infill drilling may be necessary to confirm interpretations.<br>• Not applicable as not reporting mineral resources.<br>• Sample compositing was not used in reporting exploration results. |
| ***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.*<br>• *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.* | • The drillhole azimuth and dip was chosen to intersect the interpreted mineralised zones as nearly as possible to right angles and at the desired positions to maximise the value of the drilling data.<br>• At this stage, no material sampling bias is known to have been introduced by the drilling direction. |
| ***Sample security*** | • *The measures taken to ensure sample security.* | • RC chip samples are directly collected from the riffle splitter on the cyclone in numbered calico bags.<br>• Several calico bags are placed in each polyweave bag which are then sealed with cable ties. The samples are transported to the assay lab by a reputable local carrier at regular intervals.<br>• There is minimal opportunity for |

| Criteria | JORC Code explanation | Commentary |
| --- | --- | --- |
| | | systematic tampering with the samples as they are not out of the control of Havilah personnel on site and the carrier is very reputable. The samples are transported to the lab within one or two days, limiting time for any interference.<br>• This is considered to be a secure and practical procedure and no known instances of tampering with samples has ever occurred. |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | • Ongoing internal auditing of sampling techniques and assay data has not revealed any material issues. |

**Section 2 Reporting of Exploration Results**

| Criteria | JORC Code explanation | Commentary |
| --- | --- | --- |
| ***Mineral tenement and land tenure status*** | • *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*<br>• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.* | • Security of tenure is via current exploration licence (EL) 6659 owned 100% by Havilah that is in good standing.<br>• Exploration drilling reported was undertaken on EL 6659.<br>• A Native Title Exploration Agreement is in place for EL 6659. The agreement was executed between Havilah and NAWNTAC, the representative claimant body. |
| ***Exploration done by other parties*** | • *Acknowledgment and appraisal of exploration by other parties.* | • Much of the area has been explored by a number of groups in the past including Placer, Newcrest and Havilah.<br>• This has included shallow rotary mud, aircore and reverse circulation drilling.<br>• All previous exploration data has been integrated into Havilah's databases. |
| ***Geology*** | • *Deposit type, geological setting and style of mineralisation.* | • The primary Cu-Au-Mo sulphide mineralisation is structurally controlled, stratabound replacement.<br>• Supergene enrichment during weathering processes may cause elevated levels and copper and gold mineralisation in the oxidised zone. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Drill hole information*** | • *A summary of all information material to the under-standing of the exploration results including a tabulation of the following information for all Material drill holes:*<br>o *easting and northing of the drill hole collar*<br>o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>o *dip and azimuth of the hole*<br>o *down hole length and interception depth*<br>o *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.* | • This information is provided in the accompanying table for the relevant drillholes. |
| ***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.* | • Simple average grades over the specified intervals are reported, with no weighted aggregation of results.<br>• At the exploration stage there is usually insufficient information to apply cutting of high grades.<br>• The lowest grade and metreage interval that is excluded from the reported significant intersection is normally stated, with no implied judgement as to the economic basis given the exploration stage.<br>• Where higher grades exist, a separate high grade sub-interval will normally be reported. |
| ***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* | • Downhole lengths are reported. Drillholes are typically oriented with the objective of intersecting mineralisation as near as possible to right angles, and hence downhole intersections in general are as near as possible to true width.<br>• For the purposes of the geological |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *clear statement to this effect (e.g. 'down hole length, true width not known').* | interpretations and resource calculations the true widths are always used. |
| ***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.* | • This information is provided. |
| ***Balanced Reporting*** | • *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.*<br>• *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.* | • Not applicable as not reporting mineral resources.<br>• All drillhole collars will ultimately be located by DGPS method which has mm accuracy.<br>• Only significant intersections are reported for exploration drilling results, qualified by the lowest grade and metreage intervals that are included in the intersections reported, with no economic judgement implied at the exploration stage. |
| ***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.* | • Relevant geological observations are reported. |
| ***Further work*** | • *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • No firm plans at this stage. Subject to allocation of future drilling budget, heritage surveys, drilling approvals and drilling rig availability.<br>• Additional drilling may be carried out in the future to explore strike and depth extensions and for resource delineation. |