



# SIGNIFICANT NEW BROAD ZONE OF NEAR-SURFACE GOLD MINERALISATION DISCOVERED AT BIBRA

Drilling identifies new strong, shallow mineralisation  
within the optimised pit shell

## HIGHLIGHTS

- New shallow zone of broad gold mineralisation intersected just 20m below surface at the Bibra Gold Deposit (Karlwinda Gold Project) in a new position within the optimised pit shell but outside the current Inferred Resource (18Mt at 1.1g/t for 650,800oz):
  - **KBRC 316: 19 metres @ 1.33g/t Au from 20m**
- This is the first time that mineralisation of this quality has been intersected in the upper hangingwall position, with the discovery of this new near-surface position opening up significant potential down-dip to the west (see Figures 2 and 4).
- Mineralisation in this position is expected to have a strongly positive impact in driving the economics of the proposed open pit development at Karlwinda (see Tables 2 and 3) with the discovery of significant mineralisation in an area previously classified as waste representing a positive development for the project.
- Impressive thick zones of mineralisation also intersected in drill holes KBRC 324 and KBRC 325, which were drilled to test the continuity of mineralisation approximately 200m down-dip of the previous drilling (see Figures 2 and 3).
- These holes intersected broad zones of mineralisation that clearly demonstrate the quality of the mineralisation extending at depth in this position (see Tables 2 and 3):
  - **KBRC 324: 26 metres @ 1.48g/t Au from 231m; and 6 metres @ 2.49g/t Au from 270m**
  - **KBRC 325: 25 metres @ 1.05g/t Au from 264m; and 14 metres @ 1.12g/t Au from 296m**
- The latest results from the maiden drilling program at Karlwinda continue to provide strong evidence that the Bibra resource still remains to be fully defined.
- Based on these new results and those previously announced, it is expected that the resource will extend well beyond the current optimised pit boundary, resulting in a significant upgrade to the resource in June 2016.
- Assay results from the remaining five holes are still outstanding and expected shortly. Once received, all of the results will be incorporated in a new resource calculation for the Bibra Gold Deposit to be completed by the end of June 2016.

## ASX ANNOUNCEMENT

31 May 2016

Australian Securities  
Exchange Code: CMM

ABN: 84 121 700 105

## Board of Directors:

Mr Guy LeClezio  
*Non-Executive Chairman*

Mr Peter Thompson  
*Managing Director*

Mr Peter Langworthy  
*Technical Director*

Mr Heath Hellewell  
*Non-Executive Director*

## Issued Capital:

Shares 487M  
Options 18.7M  
Share Price A\$0.12  
Market Cap. A\$61M

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**31st May 2016:** Capricorn Metals Ltd (ASX: CMM) is pleased to advise that it has discovered a significant new broad zone of near-surface gold mineralisation within the optimised pit shell but outside the current Inferred Resource at the Bibra Gold Deposit, part of its 100%-owned Karlawinda Gold Project in WA's Pilbara.

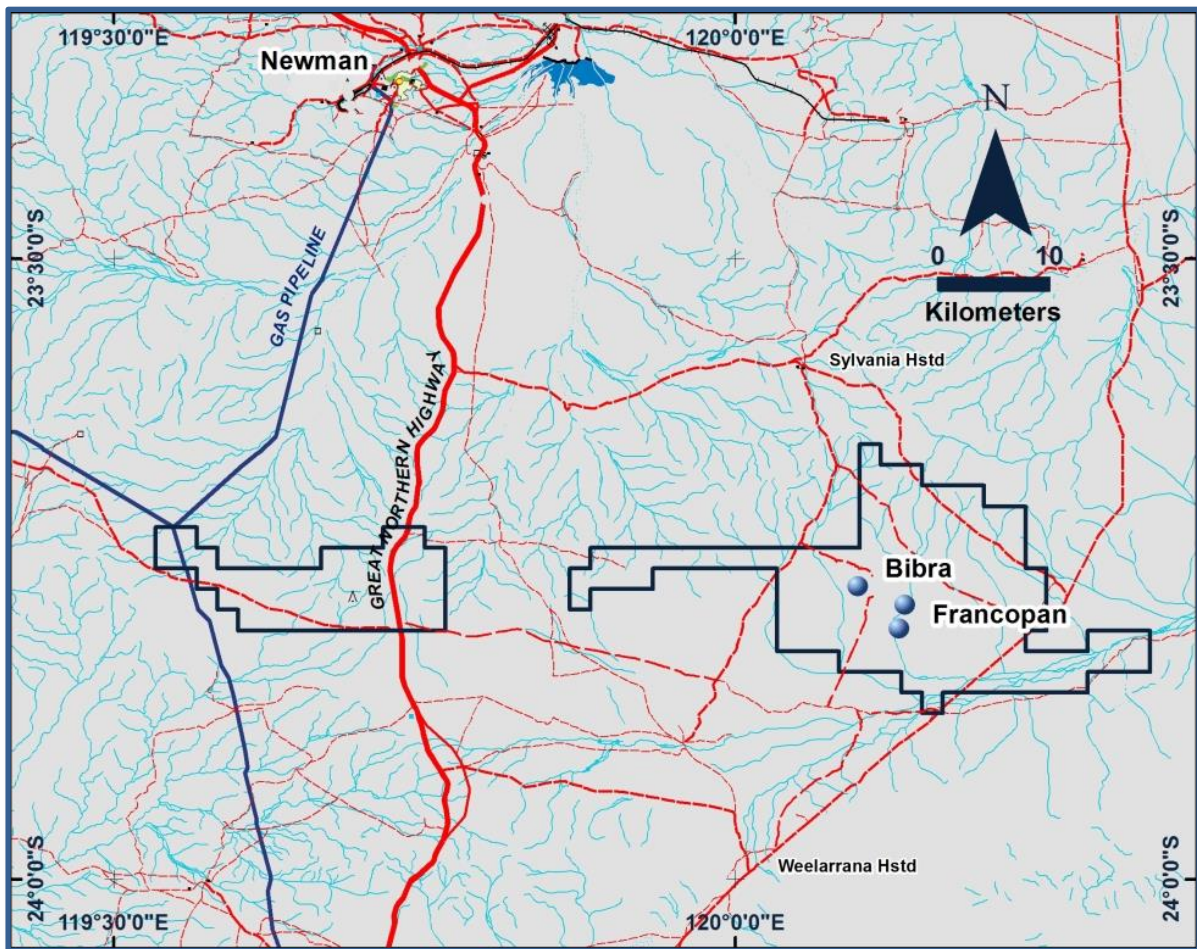
The identification of this new near-surface lode, which sits in the hangingwall position above the known gold lodes, is an important and positive development for the Karlawinda Project. The discovery of significant mineralisation within the optimised pit shell is likely to have a positive impact on the economics of the open pit, as this material in the upper hangingwall position was previously classified only as waste.

Together with other significant extensions of the main lodes – which have now been confirmed as extending for up to 200m beyond the limits of previous drilling – the latest assays have confirmed significant extensions to the Bibra deposit, **putting Capricorn firmly on track to deliver a significant upgrade to the JORC resource estimate for Bibra in June.**

Assay results have now been received for 42 holes with results from the remaining five holes due shortly. Once received, all of the results from the recent drilling program will be incorporated in a new resource calculation.

The majority of holes in the current programme were aimed at extending the known mineralisation at Bibra down-dip and are expected to increase the currently reported Inferred Resource of 18Mt @ 1.1g/t gold for 650,800 contained ounces (Table 1).

The Karlawinda Gold Project, is located in the Pilbara 65km south-east of Newman, W.A., within the Archaean aged Sylvania Dome Inlier (Figure 1). Karlawinda is an advanced gold project which includes the Bibra deposit and numerous outstanding exploration targets including the Francopan prospect.



*Figure 1: Location Map: Karlawinda Gold Project*



## KEY POINTS:

- A new, thick zone of gold mineralisation has been intersected in drill hole KBRC 316 (**19 metres @ 1.33g/t Au**) within 20 metres of the surface (Figure 3). This is the first time that mineralisation of this quality has been intersected in this upper hangingwall position and opens up significant potential down-dip to the west.
- Mineralisation in this upper hangingwall position would be expected to have a strongly positive impact in driving the economics of the proposed open pit development.
- A series of drill-holes (KBRC 324 and 325 – for which results are at hand, and 326 and 327 – for which results are awaited) have been drilled to test for significant extensions of the Main Lode mineralisation outside of the current resource in the down-dip position. The results returned from KBRC 324 (**26 metres @ 1.48g/t Au and 6 metres @ 2.49g/t Au**) and KBRC 325 (**25 metres @ 1.05g/t Au and 14 metres @ 1.12g/t Au**) indicates that strong gold mineralisation extends for at least a further 200m down-dip and has the potential to expand the resource well outside the current resource boundary.
- These drilling results continue to provide strong evidence that the Bibra resource still remains to be fully defined both within the optimised pit shell and in down-dip positions.
- As with the previously reported results, the new results continue to match, and in the case of the new near-surface lode, exceed the anticipated widths and grades predicted by previously completed wide-spaced drilling. The new results are expected to add significantly to the existing Inferred Resource (Tables 2 and 3); and
- Deeper mineralisation increasingly extends beyond the current base of the 2012 optimised pit shell and is now expected to extend the resource into these areas (Figure 4).

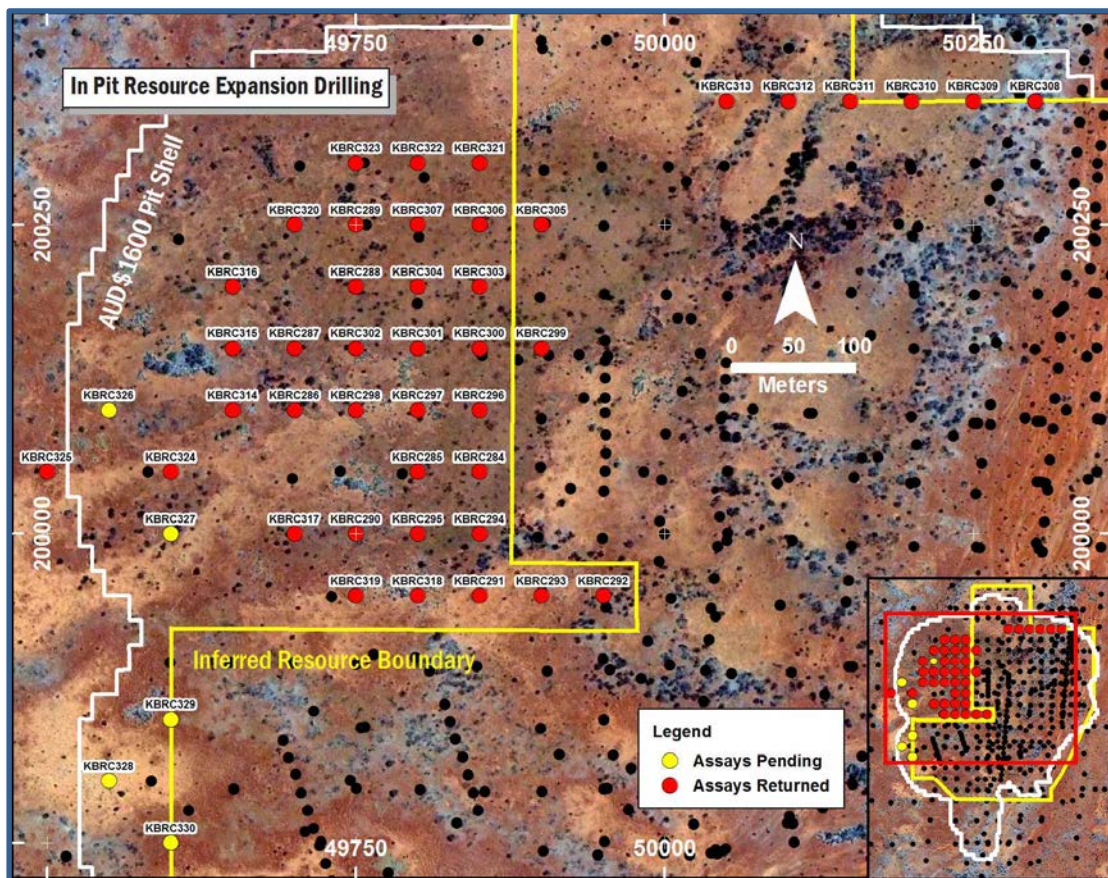


Figure 2: Plan Showing Current Drilling Status

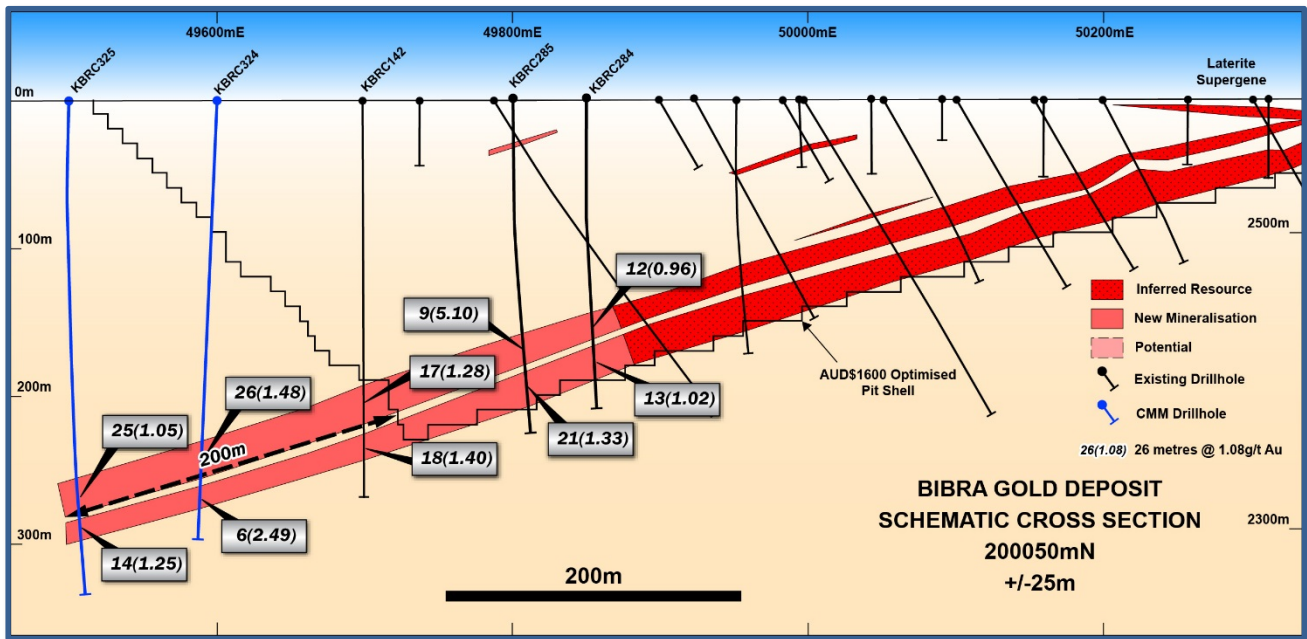


Figure 3: BIBRA GOLD DEPOSIT SCHEMATIC CROSS SECTION (200050N)

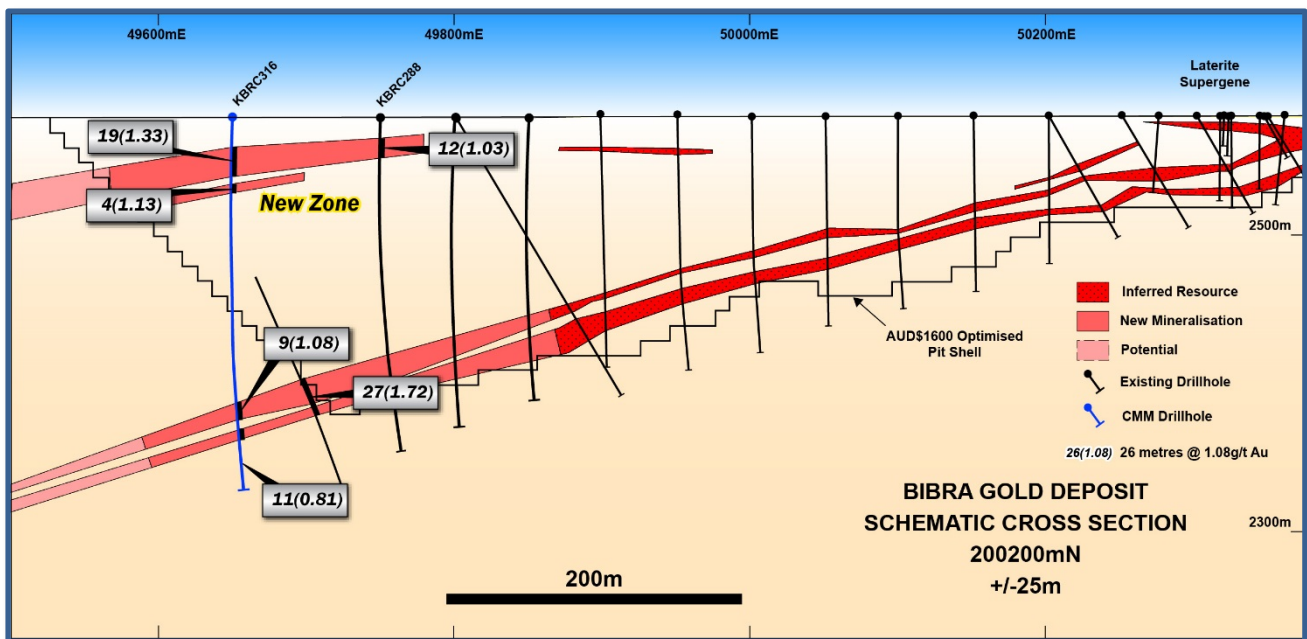


Figure 4: BIBRA GOLD DEPOSIT SCHEMATIC CROSS SECTION (200200N)

## NEXT STEPS

Assay results have been received for 42 of the 47 holes with the remainder scheduled to be returned over the coming week. This drilling information will then be used as the basis for an updated resource estimation during June 2016.

## MANAGEMENT COMMENT

Capricorn's Managing Director, Mr Peter Thompson, said the discovery of a significant zone of shallow mineralisation within the optimised pit shell, well above the Main Lode, was an exciting development for the Karlawinda Gold Project.

*"The near-surface mineralisation intersected by drill-hole 316 represents the discovery of a new mineralised zone within the previous open pit design, until now regarded as waste material. This has*

positive implications, both in terms of the potential to increase the current resource as well as for the economics of the open pit.

Our maiden drill program has clearly demonstrated that the Bibra resource remains to be fully defined. Similarly, the depth extensions shown in the 100m step-out holes 324 and 325 (our deepest hole to date) show that the Bibra Main Lode just keeps on going with depth.

The drilling has clearly demonstrated the size and continuity of the Bibra gold system, paving the way for what we anticipate will be a significant resource upgrade in June.

June and July will be busy months for the Capricorn team with the completion of this updated resource underpinning a Scoping Study which we plan to deliver in late July. That will enable us to move ahead rapidly with a Feasibility Study, which in turn will set the foundations for us to advance this high-quality gold asset rapidly towards development and production."

### **For and on behalf of the Board**

**Peter Thompson**

**Managing Director**

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### **Competent Persons Statement**

The information in this report that relates to Exploration Results or Mineral Resources is based on information compiled or reviewed by Mr. Peter Langworthy, Technical Director, who is a Member of the Australian Institute of Mining and Metallurgy. Mr. Peter Langworthy is a full time Director of Capricorn Metals Limited and has sufficient experience, which is relevant to the style of mineralisation and types of deposit under consideration and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Peter Langworthy consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.



**Appendix 1: Bibra RC Drilling Program  
JORC Code, 2012 Edition  
Table 1**

**Section 1 Sampling Techniques and Data  
(Criteria in this section apply to all succeeding sections.)**

| Criteria                   | JORC Code explanation  | Commentary   |
|----------------------------|--|--|
| <b>Sampling techniques</b> | <ul style="list-style-type: none"> <li>• <i>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 down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>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.</i></li> </ul> | <p>2kg - 3kg samples were split from dry 1m bulk samples. The sample was initially collected from the cyclone in an inline collection box with independent upper and lower shutters. Once the metre was completed, the drill bit was lifted off the bottom of the hole, to create a gap between sample, when the gap of air came into the collection box the top shutter was closed off. Once the top shutter was closed, the bottom shutter was opened and the sample was dropped under gravity thorough a Metzke cone splitter. Once drilling reached fresh rock a fine spray of water was used to suppress dust and limit the loss of fines thorough the cyclone chimney. A second 2kg-3kg sample was collected at the same time the original sample. This sample has been stored on site. These duplicate samples have been retained for follow up analysis and testwork.</p> <p>The bulk sample of the main ore zone was discharged from the cyclone directly into green bags. The bulk sample from the waste and hanging wall zones was collected in wheelbarrows and dumped into neat piles on the ground.</p> <p>During the sample collection process, the cone split, original and duplicate calico samples and the reject green bag samples were weighed to test for bias's and sample recoveries. The majority of the check work was undertaken through the main ore zones, however approximately 10% of the holes drilled had the whole hole weighed.</p> <p>Field duplicates were collected at a ratio of 1:20 through the mineralised zones and collected at the same time as the original sample through the B chute of the cone splitter. OREAS certified reference material (CRM) was inserted at a ratio of 1:20 through the mineralised zone. The grade ranges of the CRM's were selected based on grade populations and economic grade ranges.</p> |
| <b>Drilling</b>            | <ul style="list-style-type: none"> <li>• <i>Drill type (e.g. core, reverse</i></li> </ul>  | All Drilling has been completed by   |

| Criteria  | JORC Code explanation   | Commentary   |
|---|---|--|
| <b>techniques</b>                                     | <i>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.).</i>   | reverse circulation using a DRA600 RC rig with 1350cfm@500psi compressor with a 1800cfm x 800psi booster and 900cfm, 350psi auxiliary. The hole was drilled using a nominal 135mm diameter face sampling bit, and to limit the hole deviation 4metre thick wall rod and top and bottom stabilisers were used.  |
| <b>Drill sample recovery</b>                          | <ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>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.</i></li> </ul>   | <p>During the sample collection process, the cone split, original and duplicate calico samples and the reject green bag samples were weighed to test for bias's and sample recoveries. The majority of the check work was undertaken through the main ore zones, however approximately 10% of the holes drilled had the whole hole weighed.</p> <p>Once drilling reached fresh rock a fine spray of water was used to suppress dust and limit the loss of fines thorough the cyclone chimney.</p> <p>At the end of each metre the bit was lifted off the bottom to separate each metre drilled.</p> <p>The majority of samples were of good quality with ground water having minimal effect on sample quality or recovery.</p> <p>From the collection of recovery data, no identifiable bias exists.</p> |
| <b>Logging</b>  | <ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>  | Reverse circulation chips were washed and stored in chip trays in 1m intervals for the entire length of each hole. Chips were visually inspected and logged to record lithology, weathering, alteration, mineralisation, veining and structure.  |
| <b>Sub-sampling techniques and sample preparation</b> | <ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in</i></li> </ul> | <p>Samples were split from dry, 1m bulk sample via a cone splitter directly from the cyclone.</p> <p>The quality control procedure adopted through the process includes:</p> <p>Weighing of both Calico samples and reject sample to determine sample recovery compared to theoretical sample recovery and to check sample bias through the splitter.</p> <p>Field duplicates were collected at a ratio of 1:20 through the mineralised zones and collected at the same time as the</p>  |

| Criteria   | JORC Code explanation  | Commentary  |
|--|--|---|
|  | <p><i>situ material collected, including for instance results for field duplicate/second-half sampling.</i></p> <ul style="list-style-type: none"> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>   | <p>original sample through the B chute of the cone splitter.</p> <p>OREAS certified reference material (CRM) was inserted at a ratio of 1:20 through the mineralised zone. The grade ranges of the CRM's was selected based on grade populations and economic grade ranges</p> <p>The duplicate and CRM's were submitted to the lab using unique sample ID's.</p> <p>A 2kg – 3kg sample were submitted to Intertek laboratory in Maddington in WA.</p> <p>Samples were oven dried at 105°C then jaw crushed to -10mm followed by a Boyd crush to a nominal -2mm. Samples were rotary split to 2.5kg. Samples were then pulverised in LM5 mills to 85% passing 75µm under sample preparation code EX03_05 which consists of a 5 minute extended preparation for RC/Soil/RAB. The extended time for the pulverisation is to improve the pulverisation of samples due to the presence of garnets in the samples</p> <p>All the samples were analysed for Au using the FA50/AAS technique which is a 50g lead collection fire assay</p> |
| <p><b>Quality of assay data and laboratory tests</b></p> | <ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>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.</i></li> <li><i>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.</i></li> </ul> | <ul style="list-style-type: none"> <li>Samples were submitted to the Intertek laboratory in Perth. In the waste zones, analysis has been completed by a single fire assay. In the main mineralised zone four fire assays from the sample pulp were completed and then averaged to determine, the assay grade of the sample to reduce the impact of the nugget effect in each ore zone sample</li> </ul> <p>The samples were determined for gold, pt, pd and additional elements/base metals, using ICP optical emission spectrometry and ICP mass spectrometry.</p> <ul style="list-style-type: none"> <li>Field duplicates were collected at a ratio of 1:20 through the mineralised zones and collected at the same time as the original sample through the B chute of the cone splitter. OREAS certified reference material (CRM) was inserted at a ratio of 1:20 through</li> </ul>   |



| Criteria   | JORC Code explanation  | Commentary   |
|--|--|--|
|  |  | the mineralised zone. The grade ranges of the CRM's were selected based on grade populations and economic grade ranges.  |
| <b>Verification of sampling and assaying</b>                   | <ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Logging and sampling were recorded directly into a Micromine field marshal template, which utilises lookup tables and in file validation on a Toughbook by the geologist on the rig.</li> <li>• Assay results when received were plotted on section and were verified against neighbouring holes.</li> <li>• In the current program no twin holes have been completed.</li> </ul> |
| <b>Location of data points</b>                                 | <ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• The drill collars were positioned using a Garmin hand held GPS. The coordinates were plotted and marked in GDA94 / MGA zone 51.</li> <li>• Downhole surveys were collected by driller operated in-rod gyro at the end of each hole. Measurements were taken every 10 metres</li> </ul>  |
| <b>Data spacing and distribution</b>                           | <ul style="list-style-type: none"> <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>                               | <ul style="list-style-type: none"> <li>• Drilling is being completed on a 50x50m grid. Drill spacing is sufficient for current resource classification</li> <li>• Samples collected and analysed for each metre down the hole. Whole hole is analysed.</li> </ul>  |
| <b>Orientation of data in relation to geological structure</b> | <ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul> | <ul style="list-style-type: none"> <li>• Drill lines are oriented across strike on a local grid. Bibra orebody dips at 30 degrees to the North West. Hole in the current programs are being drilled at inclination of 90 degrees and intersect the ore body at an angle less than 10 degrees from perpendicular.</li> </ul>  |
| <b>Sample security</b>   | <ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>  | <ul style="list-style-type: none"> <li>• 5 calico sample bags were sealed into green bags and cable tied. These bags were then sealed in bulka bags by company personnel, dispatch by third party contractor, in-company reconciliation with laboratory assay returns.</li> </ul>  |
| <b>Audits or</b>   | <ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>  | <ul style="list-style-type: none"> <li>• Program review by company senior</li> </ul>   |

| Criteria       | JORC Code explanation | Commentary   |
|----------------|-----------------------|--|
| <i>reviews</i> |                       | <p>Geologist.</p> <ul style="list-style-type: none"> <li>• Prior to commencement of drill program a meeting of industry specialists was held to discuss the sampling and analytical techniques to get consensus and or improvements on the drilling and sampling protocol</li> </ul> |