

# ASX ANNOUNCMENT

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## Board of Directors:

Mr Heath Hellewell *Executive Chairman* 

Mr Guy LeClezio Non-Executive Director

Mr Stuart Pether Non-Executive Director

## Issued Capital:

Shares 572.4M Options 46.3M Share Price A\$0.056 Market Cap. A\$32.1M

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# 20% INCREASE IN KARLAWINDA MINERAL RESOURCE TO 1.3MOZ OF GOLD

Potential for significant increase of Bibra open pit reserves and Project mine life extension

# HIGHLIGHTS

- A modest exploration and resource drilling program undertaken during the period May to July 2017 has delivered a substantial increase in the Mineral Resource estimate for Capricorn's 100%owned Karlawinda Gold Project in WA's Pilbara region.
- The November 2017 Mineral Resource, reported at a 0.5g/t Au cutoff grade and a A\$1750/oz gold price is (see Table 1):
  - o 38.3 million tonnes @ 1.1g/t Au for 1,326,000 ounces of gold
- This represents a 20% increase (212,000 ozs) from the April 2017 Mineral Resource estimate and a 100% increase in resources since acquisition of the Project in February 2016. Approximately 25% of the resource is now in the highest confidence Measured Resource category.
- The resource growth at the Bibra deposit demonstrates the outstanding endowment potential of the Karlawinda Gold Project, as ongoing exploration continues to define a significant large-scale Archaean gold system.
- A key result is the significant increase in resource within the A\$1500/oz optimised pit shell which formed the basis for the open pit mine design and August 2017 Ore Reserve estimate. The total ounces within this selected pit shell previously reported to within 1.4% of the final pit design and subsequent Ore Reserve estimate.
- The November 2017 A\$1500/oz optimised resource estimate is:
  - o 27.35 million tonnes @ 1.12g/t Au for 985,600 ounces
- The new A\$1500/oz optimised resource includes 897,400 ounces in the Measured and Indicated categories and is an increase of 262,600 ounces from the April 2017 A\$1500/oz optimised resource of 21.1 million tonnes @ 1.07g/t Au for 723,000 ounces.
- There is a high-probability that a large proportion of these additional resources within the A\$1500/oz optimised pit shell will convert into an upgraded reserve estimate in the near term. This will result in a material increase in the mine life of the Project.
- Substantial ongoing resource growth is expected in the coming months as open extensions of mineralised domains are further drill tested and additional infill drilling provides sufficient density in areas that are currently unclassified.

# MANAGEMENT COMMENT

Capricorn's Executive Chairman, Heath Hellewell, said: "At Karlawinda, the Bibra deposit continues to reveal itself as part of a very significant Archaean gold system. We continue to achieve outstanding success in growing the resource base at a very low discovery cost per ounce. Since acquiring the Project at the beginning of last year, we have now doubled the resource base and improved our understanding of the controls on mineralisation. We are very well placed to deliver further significant increases in the Project's resources with drilling in the coming months.

"We recently reported the results of our Feasibility Study which confirms the robust economics of the Karlawinda Gold Project and supports the development of a significant new Western Australian gold mine. That view is clearly enhanced by the delineation of these additional resources that we anticipate will result in a material increase in the reserve in the near term. We expect that our exploration efforts both near-mine and regionally will continue to deliver on the Project's growth potential and significantly extend the mine life."



Figure 1: Location of the Karlawinda Gold Project

# KARLAWINDA RESOURCE UPDATE

Capricorn Metals Limited (ASX: CMM) is pleased to advise that it is continuing to achieve significant growth in the gold resource inventory at its 100%-owned Karlawinda Gold Project in WA (Figure 1) after delivering substantial increase in the JORC 2012 Mineral Resource, which now stands at over 1.3 million ounces of gold.

Following the incorporation of recent resource drilling data and the application of high confidence mine operating cost estimates directly derived from the recently completed Feasibility Study ("FS"), the total Measured, Indicated and Inferred Mineral Resource has increased to 38.3 million tonnes grading 1.1g/t Au for 1,326,000 ounces of contained gold.

This represents a 20% increase from the April 2017 Mineral Resource and a 100% increase since Capricorn acquired the Project in early 2016 (see Tables 1 and 2).

## Key Points:

• An additional 10,000 metres of drilling information has been incorporated into this resource update.



- The reported resource is constrained by a A\$1750/oz optimised pit shell which applies detailed operating
  cost estimates taken directly from the recently completed Feasibility Study ("FS").
- 83% of the resources are now classified in the high confidence Measured and Indicated categories.
- A Measured Resource totalling 8.3 million tonnes @ 1.25g/t Au for 334,300 ounces has been reported for the first time.
- A significant increase in resource has been estimated within the A\$1500/oz optimised pit shell. The A\$1500/oz optimized pit shell was the basis of the open pit mine design and August 2017 Ore Reserve estimate. Total ounces within this selected pit shell previously reported to within 1.4% of the final pit design and Ore Reserve estimate announced to the ASX on 7<sup>th</sup> August 2017.

The total estimated Mineral Resource contained within the A\$1500/oz pit shell is as follows:

Measured and Indicated:	24.8 million tonnes @ 1.13g/t Au for 897,400 ounces
Inferred:	2.55 million tonnes @ 1.08g/t Au for 88,200 ounces
TOTAL:	27.35 million tonnes @ 1.12g/t Au for 985,600 ounces

With additional drilling, the Inferred Resource component is expected to upgrade to a higher confidence classification and it is likely that a large proportion of these additional resources will convert into an upgraded reserve estimate in the near term with a resultant increase in Project mine-life.

- The impact of being able to add further resource ounces in the shallow hanging wall position of the Bibra Open Pit along the Portrush Zone has resulted in the A\$1500 optimised pit shell driving deeper and capturing previously defined Indicated resources (Figure 2).
- Importantly, an additional 77,000 ounces of oxide and transitional resources have been added to the total
  resource. This material can potentially be processed early in the mine life at a higher rate with substantial
  benefits to the Project's economics.
- Further additions to the Bibra resource are expected with ongoing exploration as several mineralised domains remain open or drilling is not yet of a density to allow classification.
- Resource expansion and exploration drilling programs are scheduled to re-commence in mid-November 2017 and will continue into 2018.



Figure 2: Bibra Gold Deposit, Portrush Zone (200,200mN) (see Appendix 1)



# **NEXT STEPS**

This result continues to demonstrate the ongoing resource growth potential of the Bibra Gold Deposit and its ability to support a long-life mining operation.

The next phase of drilling will focus on the expansion of key mineralised domains that have not yet been fully defined. In particular, a zone of higher-grade mineralisation has been identified on the western edge of the Bibra Pit along the Portrush Zone that has significant growth potential (Figure 2). Previous results from this zone, which are open down-dip and along strike include (see ASX announcement dated 3 August 2017 for details):

- KBRC1038 25m @ 2.28g/t Au
- KBRC0953 28m @ 1.47g/t Au
- KBRC0907 10m @ 1.41g/t Au and 10m @ 1.78g/t Au
- KBRC0951 14m @ 2.06g/t Au

Additional work will also focus on:

- Further targeted in-fill drilling of unclassified mineralised domains, which will enable this mineralisation to be included in future resource estimations;
- Testing of a series of highly ranked exploration targets across the greater Karlawinda Gold Project; and
- An updated reserve estimate based on this current resource and ongoing exploration, which is expected to be completed early in the second Quarter of 2018.

For and on behalf of the Board

IMM

Heath Hellewell Executive Chairman

## For further information, please contact:

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# **RESOURCE ESTIMATION METHODOLOGY AND DATA**

The following information is provided as an addendum to meet the requirements under listing rule 5.8.1. This information is provided in full detail in the attached JORC Table 1 (Appendix 2).

# Geology and Geological Interpretation

Bibra is part of a large-scale Archaean aged gold mineralized system. The geology at Bibra predominantly comprises a sequence of alternating Archaean amphibolites and quartz-feldspar-chlorite-garnet schists with mineralisation hosted in silicified and magnetite altered, mylonitised "psmammites". Gold mineralisation has developed on at least two parallel, 40m thick, shallow dipping structures, which dip to the west-north-west at 22°. Laterite oxide mineralization has developed over the structures close to surface. The primary mineralization is marked by 3-10% sulphides, subhedral magnetite grains, quartz veins/veinlets, and gold. The gold mineralisation is strata-form with lineation's identified as controlling higher-grade shoots. The overall footprint of the mineralisation covers an area of 1400m (local grid N) by 900m (local grid E) The deposit is oxidized to average depths of 50-70m.

Confidence in the geological interpretation is good. Stratigraphy is consistent and can be correlated between holes and along strike. Geological logging and structural measurements from drillholes have been used to construct the geological model. Sections were interpreted, digitised and a 3D wireframe model constructed. Geological continuity has been assumed along strike and down-dip.

The geological interpretation is robust. The geological model was built by on the ground geologists who logged and relogged and interpreted the geology to ensure the geological interpretation was consistent. With the current drill spacing it is unlikely that an alternative interpretation will develop. There is currently sufficient drilling to map the stratigraphic units and laterite zone.

The geological model has been used to guide mineralisation envelopes and subsequent mineralisation wireframe modelling.

## **Drilling Techniques**

In total 143,943 metres of drilling has been completed within the constraints of the Bibra resource consisting of 85 diamond holes (12,211m/9%) and 880 Reverse Circulation drillholes (131,732m/91%). The drilling database consists of good quality RC and diamond drillholes with holes drilled at approximate spacings of 25m x 25m in the measured category area, 25m x 50m in the indicated category area and 50m x 50m to 100m x 100m in the inferred category area. Deeper holes and wider spaced drilling targeting along strike, downdip and down plunge extensions of the Bibra mineralisation has also been completed outside of the classified resource area and included in the model. However, currently this material remains unclassified/not reported and is target for future resource development drilling.

## Sampling and Sub-Sampling Techniques

Drilling at the Bibra deposit has been completed by two companies Independence Group (IGO) and Capricorn Metals Group (CMM). The methods of collection have been very similar in terms of sampling procedures, drilling methods and sampling quality.

2kg - 3kg samples RC 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 as a field duplicate.

The diamond drillholes were saw cut, with one half being sent to the laboratory. Diamond core was sampled dominantly to 1 metre intervals, some smaller samples were collected where the core was sampled to geological/mineralisation contacts.



QAQC protocols have been executed to a high standard. QA/QC programs were implemented to test the quality of drilling, assaying and logging. In the drilling programs, samples were weighed to determine drillhole quality through the analysis of sample recovery and split ratio. It was shown through the gathering of this information, that the drilling was completed to a high standard with overall recovery greater than 80% and the split ratio through the splitter showing no material bias.

## Sample Analysis Method

The RC and diamond core samples were sent to Intertek laboratories in Perth, where the samples were oven dried at 105°C. After drying, the core was crushed to a nominal 2mm and then both RC and diamond core were pulverised LM5 mills to 5 minutes to achieve 85% passing 75µm to provide a pulp sample for analysis. All samples submitted by CMM were analysed for Au using the FA50/MS technique, which is a 50g lead collection fire assay. The sample submitted by IGO were analysed by FA50/AAS which is a 50g lead collection fire assay.

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) and matrix matched CRM's were 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. The duplicate and CRM's were submitted to the lab using unique sample ID's.

# Estimation Methodology

Three-dimensional wireframes were created to constrain the mineralisation and allocate geology to the block model. Micromine software was used for the wireframing of ore, geology and weathering profiles. The Bibra mineralisation wireframe models were built using sectional interpretation and visualization of the mineralisation in three-dimensions. The sectional mineralisation strings were defined with a cut-off grade of 0.3g/t Au. There are three main domains including Laterite, Main Hanging wall, Main Footwall and two smaller domains including the Finns lodes (old hangingwall lodes) and Port Rush which occur inside the main resource area. Located outside the Main Bibra Pit area, there are several other resource areas such as Southern Corridor and Easky, which were included in the estimate. Ore zones greater than 1.0g/t Au occur in the Main Hanging wall, Main Footwall and Laterite domains, these zones were separately wireframed. The interpretation and wireframes of geology were built by on-site geologists to ensure the interpretation consistency. Geological logging and structural measurements from drillholes has been used to construct the geological model. Geological continuity has been assumed along strike and down-dip.

A block model was created to encompass the Bibra mineralisation and prospects in close proximity. The block model was constructed using a 5 mE by 12.5 mN by 5 mRL parent block size with sub celling to 1.25 mE by 3.125 mN by 1.25 mRL for volume resolution. Variography was undertaken on domains in Supervisor and the variography used to undertake Kriging neighborhood analysis to optimise the block size, search distances and min/max sample numbers used. The block model grades were estimated using ordinary kriging grade interpolation techniques constrained within the mineralisation wireframes. All work was completed in the local grid co-ordinate system. Search ellipses were developed from variography and were oriented parallel to the ore bodies. The estimation was completed in a number of passes with the following parameters: Pass 1 – min 6, max 36 samples, with a drillhole sample limit of 3 samples per drillhole inside a search ellipse of 50m by 50m by 10m. Pass 2 – min 6, max 36 samples, with a drillhole sample limit of 3 samples inside a search ellipse of 100m by 20m. Pass 3 – min 3, max 36 samples inside a search ellipse of 100m by 100m by 20m. Pass 3 – min 3, max 36 samples inside a search ellipse of 100m by 100m by 20m. Pass 4 – min 3, max 36 samples inside a search ellipse of 100m by 100m by 20m. Pass 4 – min 3, max 36 samples inside a search ellipse of 100m by 100m by 20m. Pass 4 – min 3, max 36 samples inside a search ellipse of 100m by 100m by 20m. Pass 4 – min 3, max 36 samples inside a search ellipse of 100m by 100m by 20m. Pass 4 – min 3, max 36 samples inside a search ellipse of each domain. All estimation was completed at the parent cell scale.

Density assumptions were based on 10,138 samples (7,345 downhole gamma readings, 2,793 water immersion method density readings). Average densities for oxidation profiles or rock type (transition and fresh rock) were assigned to the block model using the three-dimensional geological model.

The resource model has been classified as Measured, Inferred and Indicated. Measured material has been classified based upon material defined by 25m x 25m drilling inside the stage 2 DFS reserve design pit. Indicated material was defined by material which was defined by constraining the model to areas where there was drill spacings between 25m x 25m and 50 x 50m inside the A\$1750 optimised pit shell. Inferred material was defined



by material which had drill spacing of between 50m x 50m and 100 by 100m inside a A\$2000 pit shell.

The block model was validated using various techniques. These techniques consisted of visual checking, domain assay Vs block model grade, Swathe plots and quantitative kriging measures. The new resource was also checked against the April 2017 model to make sure they were comparable.

## Resource Classification Criteria

The Inferred, Indicated and Measured classification reflects the relative confidence in the estimate, the confidence in the geological interpretation, the drilling spacing, input data, the assay repeatability and the continuity of the mineralisation.

Measured material was constrained by the Reserve stage 2 design pit,  $25m \times 25m$  drilling and only reported within the Laterite and Main Hangingwall and Main Footwall domains. Indicated classification was constrained to a A\$1750 oz optimal pit shell with drill spacings between  $25m \times 25m$  to  $50m \times 50m$ . The inferred classification was constrained to a A\$2000 oz conceptual optimal pit shell where the drill spacing was between  $50m \times 50m$  and  $100m \times 100m$ .

This classification reflects the Competent Person's view of the deposit.

## Mining and Metallurgical Methods and Parameters

The mineralisation has been wireframe modelled using a 0.3g/t Au assay cut-off grade. The resource estimate has been reported above a block grade of 0.5g/t Au.

Currently a medium-sized contractor-operated open-pit mining option is the basis for the cut-off grade. Ore and waste would be paddock blast on 5m benches and subsequently excavated as 2.5m flitches utilising a conventional excavator and truck mining fleet to facilitate moderate ore excavation selectivity. Internal dilution to 2m has been included and external dilution has been applied to the estimate by re-blocking to a selective mining unit (smu) of 5 m x 6.25 m x 2.5 m.

Metallurgical testwork was completed during 2017 using 32 composite samples from 779 metres of core.

The Bibra ore is classified as free milling, with a high gravity recoverable gold component (up to 45%). Overall, gravity plus leach gold recoveries are in the range of 93% to 96%. The Bibra ore is relatively clean, with minimal to no cyanide or oxygen consuming gangue minerals present in the ore, leading to low residual WAD cyanide levels (<50ppm) in the leach circuit tailings solution.



#### TABLE 1: BIBRA GOLD DEPOSIT JORC OPEN PIT RESOURCE ESTIMATE (as of November 2017)

		MEASURED	)		INDICATED	1		INFERRED			TOTAL	
Date	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonne	Grade	Ounces
	(Mt)	(g/t)	(Moz)	(Mt)	(g/t)	(Moz)	(Mt)	(g/t)	(Moz)	s (Mt)	(g/t)	(Moz)
Nov 2017	8.3	1.25	334	22.6	1.05	765	7.3	1.0	227	38.3	1.1	1.326

Notes on the November 2017 Mineral Resource Estimate:

- 1. Refer to JORC 2012 Table (1) in Appendix 2 for full details.
- 2. Discrepancy in summation may occur due to rounding.
- 3. The mineralisation has been wireframe modelled using a 0.3g/t Au assay cut-off grade. The Mineral Resource estimate has been reported above a block grade of 0.5g/t Au.
- 4. The Mineral Resource has been constrained by a A\$1750/ounce optimised pit shell for indicated and A2000/ounce for Inferred.
- 5. Ordinary kriging was used for grade estimation utilising Surpac software v6.6.2.
- 6. Grade estimation was constrained to blocks within each of the mineralised wireframes.
- 7. See ASX announcements dated 4th July 2016 and 10th April 2017 for previous resource announcements.
- 8. See ASX announcement dated 7th August 2017 for previous Ore Reserve announcement.

#### TABLE 2: BIBRA GOLD DEPOSIT JORC OPEN PIT RESOURCE ESTIMATE BY DOMAIN (as of November 2017)

DOMAIN	Tonnes	Grade (g/t Au)	Ounces
Laterite	1,503,732	1.4	67,355
Oxide – upper saprolite	2,877,007	1.0	86,244
Lower saprolite	4,493,495	1.0	137,279
Transitional	3,018,783	1.0	91,314
Fresh	26,381,740	1.1	934,969
TOTAL	38,274,757	1.1	1,326,160

#### 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. Michael Martin who a full-time employee of Capricorn Metals Ltd in the role of Chief Geologist and is a current Member of the Australian Institute of Geoscientists. Mr. Michael Martin 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. Martin consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this report that relates to Exploration Results or Mineral Resources is based on information reviewed by Mr. Peter Langworthy, Executive General Manager - Geology, who is a current Member of the Australian Institute of Mining and Metallurgy. Mr. Peter Langworthy is a full-time Executive employee of Capricorn Metals Ltd 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. 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 GOLD DEPOSIT, PORTRUSH ZONE (200,200MN)

## **APPENDIX 2**

#### 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
Criteria Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (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.</li> </ul>	Commentary Drilling at the Bibra deposit has been completed by two companies Independence Group (IGO) and Capricorn Metals Group (CMM). The methods of collection have been very similar in terms of sampling procedures, drilling methods and sampling quality. For drilling between 2017 & 2015 RC drilling the standard method of sample collection included the following: 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. The bulk sample of the main ore zone was discharged from the cyclone directly into green bags. The bulk sample from
		the cyclone directly into green bags. The bulk sample from the waste was collected in wheelbarrows and dumped into neat piles on the ground. 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.
		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.
		For the diamond drilling- NQ core was half cut in half using a corewise automatic core saw.
		In 2012, RC samples were collected for 1m intervals using a rig-mounted cone splitter. Samples were to be 121/2% from each of the two sample chutes and 75% reject collection. Wet samples were grab sampled and recorded as such in the database, few were within mineralised zones. NQ core was half-core sampled and HQ/HQ3 core was initially quarter-core sampled. Issues with quarter- coring in the regolith with complete disintegration of the sample and loss of material were identified, and reverted to half-core sampling with less water for better sample quality. Standards, blanks and field duplicates were inserted into each batch of samples submitted to the laboratory.





Criteria	JORC Code explanation	Commentary
		Prior to 2011 the standard method of sample collection included the following:
		Prior to 2011, RC samples were collected at the rig using a cone splitter that split the 1m cuttings into 87½% & 12½% splits. RC samples were originally composited to 2m by taking scoops from each of the 1m interval and submitted to Genalysis for sample preparation and analysis. Samples that returned values >0.5g/t Au were submitted as 1m samples to Genalysis. In 2011, RC samples were not composited and 1m interval samples were sent directly to Genalysis. A rig mounted cone splitter was used to split the samples into 87½% & 12½% splits. NQ2 core was half-core sampled and PQ and PQ3 core was quarter-core sampled using a manual core- cutting diamond saw without water in the oxide zone. The dry cutting was to prevent loss of clays for the metallurgical samples. Sample quality is considered to be good and all RC drilling within the resource area was dry.
Drilling techniques	<ul> <li>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.).</li> </ul>	In 2017 drilling, 1 Ranger Drilling drill rig was used to drill 140 RC drilling holes for 13,460m. The rig consisted of a Schramm track mounted RC rig with 1150cfm x 350psi on board compressor, an Air-research 1800cfm x 900psi on board Booster, and a truck-mounted Sullair 900cfm x 350psi auxiliary compressor.
		In 2016, 3 Ranger Drilling drill rigs, were used to drill 541 holes for 63,676m, including 2 x DRA600 RC rig with 1350cfm@500psi compressor with a 1800cfm x 800psi booster and 900cfm, 350psi auxiliary and 1 KWL350 truck mounted RC Rig with 1050cfm @ 350psi on board compressor, Sullair 1050cfm @ 350psi auxiliary compressor and Air-research 1150cfm x 350psi booster. The holes were 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.
		In 2016, 35 PQ/HQ diamond holes were drilled by Westralian Diamond Drillers (Kalgoorlie) for 4,610m using two KL900 rig's.
		Drilling in 2015, 46 RC holes have been completed by reverse circulation using Ranger Drilling DRA600 RC rig with 1350cfm@500psi compressor with a 1800cfm x 800psi booster and 900cfm, 350psi auxiliary.
		In 2012, 60 RC drillholes for 8409m and RC precollars for 534.8m were drilled by Blue Spec Mining using a KLBS900 Multipurpose rig with 4inch drill rods and face sampling 5inch bits. Two HQ3/NQ diamond holes were drilled by Blue Spec for 305.3m using the Multipurpose rig and 24 HQ/HQ3 diamond holes were drilled by Foraco for 3158.6m using a UDR1000 truck-mounted rig. Core from the Foraco drilling was oriented using an Ezymark orientation tool. Numerous aircore holes have been drilled into the project but these were not used in the resource estimate
		In 2011, 78 RC drillholes for 14,103m were drilled by Profile Drilling Services using a Schramm RC rig and 11 diamond holes (two with RC precollars, precollars drilled by Profile Drilling Services) drilled by Drill West using a Boart Longyear LF90D skid mounted rig. Core diameter was PQ3 and PQ to provide samples for metallurgical testwork and to also twin RC drillholes. Core was oriented (where possible) using a Reflex ACE orientation instrument.



Criteria	JORC Code explanation	Commentary
		In 2009-2010, principally Reverse Circulation (RC) drillholes using face sampling bits (Ranger Drilling Services, Boart Longyear Pty Ltd or Profile Drilling Services) with 3 diamond holes that have RC precollars (precollars drilled by Ranger Drilling Services (70-202m downhole depth) and NQ2 diamond tails drilled by Boart Longyear Pty Ltd) and 2 other diamond holes (PQ3 sized core by Drill West for metallurgical testing purposes). Three core holes (KBD026-028) were oriented using an Ace orientation tool.
Drill • M sample s recovery • M e • W r f	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	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. From this process showed that the majority of ore grade samples had recoveries greater than 80% 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.
		At the end of each metre the bit was lifted off the bottom to separate each metre drilled.
		The majority of samples were of good quality with ground water having minimal effect on sample quality or recovery.
		From the collection of recovery data, no identifiable bias exists.
		In 2012, RC sample recovery was variable, particularly in the regolith. Sample quality was recorded during logging and qualitative recovery codes were assigned to each sample. Sample weights were measured for each component of RC hole cuttings in mineralised zones, with results showing that regolith samples were generally poor quality (both under and over-weight samples) and quality was moderate in the other zones.
		Core was reassembled for mark-up and was measured, with metre marks and down-hole depths placed on the core. Depths were checked against driller's core blocks and discrepancies corrected after discussion with drillers. Core loss was recorded in the geological log.
		Core recovery was generally good. RC sample recovery prior to 2012 has been logged as good with samples kept dry during drilling.
		There is no obvious relationship between sample recovery and grade.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</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. Data on rocktype, deformation, colour, structure,
	Ine total length and percentage of the relevant intersections logged.	alteration, veining, mineralisation and oxidation state were recorded. RQD, magnetic susceptibility and core recoveries were recorded.
		RC chips sample quality and weights were also recorded, including whether wet or dry
		Logging is both qualitative and quantitative or semi- quantitative in nature. Core was photographed both dry and wet



Criteria	JORC Code explanation	Commentary
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split,</li> </ul>	For holes KBRC284 to KBRC1045. Samples were split from dry, 1m bulk sample via a cone splitter directly from the cyclone.
	<ul> <li>etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriate access of the comple propagation technique.</li> </ul>	The quality control procedure adopted through the process includes:
	<ul> <li>Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is</li> </ul>	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.
	representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain	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.
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	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
		The duplicate and CRM's were submitted to the lab using unique sample ID's.
		A 2kg – 3kg sample were submitted to Intertek laboratory in Maddington in WA.
		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.
		All the samples were analysed for Au using the FA50/MS technique which is a 50g lead collection fire assay.
		All core has been cut into half or quarter core for sampling.
		For early drillholes KBRC005-010, RC composite samples (2m) were submitted to Genalysis where they were sorted, dried and the total sample pulverised in a single stage mix and grind if the sample mass was <3kg. Samples >3kg mass were riffle split using a 50:50 splitter and one half pulverised. Samples were analysed for Au using an aqua regia digestion (AR10/OM) of a 10g pulp sample with ICP-MS determination. Samples that returned values >0.5g/t were submitted to Genalysis as 1m resplit samples and prepared in a similar manner as the composites.
		For drillholes from KBRC011 to KBRC283 (2009-2012), no compositing took place, 1m split RC samples and core samples were submitted to Genalysis for fire assay. 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 (2012 drilling). Samples were then pulverised in LM5 mills to 85% passing 75 $\mu$ m. All the samples were analysed for Au using the FA50/AAS technique which is a 50g lead collection fire assay with analysis by Flame Atomic Absorption Spectrometry. The fire assay method is considered a suitable assaying method for total Au determination. The aqua regia digestion results (used for samples that were <0.5g/t Au) may not allow for total Au determination in the transition and fresh rock zones. Aqua regia samples are only present for 5 holes and therefore represent only a very small percentage of the samples.



Criteria	JORC Code explanation	Commentary
		For core and RC samples the sample preparation technique is appropriate and is standard industry practice for a gold deposit.
		Quality control for maximising representivity of samples included sample weights, insertion of field duplicates and laboratory duplicates.
Quality of assay data	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and</li> </ul>	In the 2017, drilling samples were submitted to Intertek laboratory in Perth and completed by a single fire assay
and laboratory tests	<ul> <li>whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g.</li> </ul>	In the 2016 to 2015 drilling samples were submitted to the Intertek laboratory in Perth. In the waste zones, analysis has been. 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. For samples prior to 2015, only single fire assay determination occurred on each sample.
	checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	The samples from 2017 & 2015 drilling were determined for gold, pt, pd and additional elements/base metals, using ICP optical emission spectrometry and ICP mass spectrometry. Samples prior to 2016, were analysed using AAS.
		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.
		Twin holes from the different drilling programs showed that over an intercept, the grades and lengths of mineralisation compared well, whereas at the individual assay level the results are highly variable
<i>Verification of sampling and</i>	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry</li> </ul>	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.
assaying	procedures, data verification, data storage (physical and electronic) protocols.	Assay results when received were plotted on section and were verified against neighbouring holes.
	• Discuss any adjustment to assay data.	Analysis of the RC/diamond hole twinning up, showed that mineralised intervals above a cut-off grade of 0.3g/t Au were similar in length and moderately well correlated in grade.
		From time to time assays will be repeated if they fail company QAQC protocols, however no adjustments are made to assay data once accepted into the database.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral</li> </ul>	2015 - 2017 drillhole collar positions were surveyed by Survey group out of Port Hedland WA and Osbourne Park, WA.
	<ul> <li>Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	2009 - 2012 drillhole collar positions were surveyed by licensed surveyors MHR Surveyors of Cottesloe, WA.
		The instrument used was a Trimble R8 GNSS RTK GPS (differential) system. Expected relative accuracies from the GPS base station were $\pm 2$ cm in the horizontal and $\pm 5$ cm in the vertical direction. Co-ordinates were surveyed in the MGA94 grid system
		Downhole surveys in 2009 & 2010 were carried out by the drillers at about 50m intervals using a Reflex EZ shot digital downhole camera. Readings were taken in a non-



Criteria	JORC Code explanation	Commentary
		magnetic stainless steel rod near the bottom of the drill string. The depth, dip, azimuth and magnetic field were recorded at each survey point.
		In the 2015 & 2017 drill program the Downhole surveys were collected by driller operated in-rod reflex north seeking gyro at the end of each hole. The measurements were taken every 10 to 30 metres.
		Drillhole location data was initially captured in the MGA94 grid system and have been converted to a local grid for resource estimation work.
		The natural surface topography was modelled using a DTM generated from the 2012 airborne LiDAR survey conducted in November 2012 by AAM Pty Limited. The DTM was rotated in-house to the local grid coordinate system. Horizontal point accuracy is expected to be <0.33m and vertical accuracy to 0.15m. Ground control was established using RTK GPS and ALTM3100 Static GPS. The reference datum was GDA94 and the projection was MGA Zone 51, with the data supplied as 50cm and 1m contours in MGA Zone 51. Topographic control is of good quality and is considered adequate for resource estimation
Data .	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	No exploration results have been reported
spacing and distribution		Drilling is being completed on a 50x50m and 25m x 25m and 25m x 50m grid. Drill spacing is sufficient for current resource classification.
		Samples collected and analysed for each metre down the hole. Whole hole is analysed.
		Samples were collected in 1 metre intervals.
Orientation of data in	<ul> <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>	Drill lines are oriented across strike on a local grid. Bibra orebody dips at 30 degrees to the North West.
relation to geological structure		Holes in the drill programs have being drilled at inclination of -60 and -90 degrees. The orientation of the drilling is suitable for the mineralisation style and orientation of the Bibra mineralisation.
Sample security	The measures taken to ensure sample security.	Calico sample bags are sealed into green bags/polyweave 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.
Audits or	<ul> <li>The results of any audits or reviews of sampling techniques and data</li> </ul>	Program reviewed by company senior personnel.
1010103	lechniques and uala.	Prior to commencement of the 2016 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.
		Prior to 2016, a review of practices documented in the IGO technical report supplied to Optiro Pty Ltd in 2012 as part of the resource estimate review did not highlight any significant issues.



#### Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	The Bibra deposit is located in M52/1070 held by Greenmount Resources and wholly owned company of Capricorn Metals. M52/1070 is within the granted E52/1711 exploration tenement in the Pilbara region of Western Australia. E52/1711 was acquired from BHPB in 2008. BHPB retain a 2% NSR and a claw-back provision whereby BHPB can elect to acquire a 70% equity in the project only if JORC compliant reported resources of 5,000,000 ounces of gold and/or 120,000 tonnes of contained nickel have been delineated. The Nyiyaparli group are Native Title claimants covering an area including E52/1711. There is no known heritage or environmental impediments over the lease. No other known impediments exist to operate in the area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Prior to Capricorn Metals, the tenement was held by the Independence group (IGO) who undertook exploration between 2008 & 2014. Prior to Independence group, WMC (BHP) explored the area from 2004 to 2008
Geology	• Deposit type, geological setting and style of mineralisation.	Bibra is part of a large-scale Archaean aged gold mineralized system. The resource is hosted within a package of deformed meta-sediments which has developed on at least two parallel, shallow dipping structures; supergene oxide mineralization has developed over the structures close to surface. The primary mineralization is strata-bound with lineation's identified as controlling higher-grade shoots. The deposit is oxidized to average depths of 50-70m.
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	No exploration results have been reported
Data aggregation methods	<ul> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	In the 2017 drilling single fire assays were completed for each 1m sample, since significant work has been undertaken on assay variability though the Bibra deposit, whereby the single fire assay is deemed to be suitable for the classifications used. In the drilling from 2015 to 2016, in the ore zone four separate fire assays were completed for each 1m sample to reduce the nugget effect. The four assays were then averaged to calculate the final assay grade. In the drilling prior to 2016, single fire assays were completed on each sample
Relationship between mineralisation widths and	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be</li> </ul>	At Bibra, the geometry of the mineralisation has already been defined from previous drilling programs. The intersection angle between drill angle and the perpendicular angle to the ore zone is less than 10



Criteria	JORC Code explanation	Commentary
intercept lengths	<ul> <li>reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	degrees.
Diagrams	<ul> <li>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.</li> </ul>	The diagrams in the report provide sufficient information to understand the context of the drilling results.
Balanced reporting	<ul> <li>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.</li> </ul>	The accompanying document is considered to be a balanced report with a suitable cautionary note.
Other substantive exploration data	<ul> <li>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.</li> </ul>	Systematic metallurgical testwork programs over 2012 to 2017 on master and variability composites from diamond core identifies mineralisation as free milling and amenable to cyanidation
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Resource Definition programs have been designed to further infill the inferred and indicated material to the next level of classification. Drilling program have been designed to target unclassified areas of known mineralisation to move these areas into a higher classification.

#### Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	Data from the latest drilling was collected in the field by geologists and field assistants using Micromine's Field Marshall program with in-built Validation. Once hole information was finalised on site the information was emailed to the Database Administrator in Perth to load into Datashed SQL database.
		Prior to 2014, data has been collected by the geologists and field staff in either Excel spreadsheets or acQuire data entry objects on laptops for RC and diamond drilling and loaded into SQL acQuire software.
		The inherited validated data from IGO was imported into a Datashed SQL database by Maxwell Geoscience.
		Analytical data was received from the laboratories in electronic ASCII files of varying format, and were merged with sampling data already present in the database.
		Assays received from laboratories were imported by the Database Administrator into the database.
		Any data files which did not validate were investigated and rectified by field staff or Database Administrator
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	Site visits by the Competent Person were conducted during the 2015 to 2017 programs, during the drilling program. While the competent person was on site they scrutinized the method of RC sample capture and sampling, site set up, adherence to sampling and geological logging protocols, housekeeping and QAQC.



Criteria	JORC Code explanation	Commentary
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	Confidence in the geological interpretation is good. Stratigraphy is consistent and can be correlated between holes and along strike.
		Geological logging and structural measurements from drillholes have been used to construct the geological model and northern fault. Sections were interpreted, digitised and a 3D wireframe model constructed. Geological continuity has been assumed along strike and down-dip.
		The geological interpretation is robust. The geological model was built by on the ground geologists who logged and relogged and interpreted the geology to ensure the geological interpretation was consistent. With the current drill spacing it is unlikely that an alternative interpretation will develop. There is currently sufficient drilling to map the stratigraphic units and laterite zone.
		The geological model has been used to guide mineralisation envelopes and subsequent mineralisation wireframe modelling.
		Geological continuity has been assumed along strike and down-dip based on reasonably the drilling data. In general, continuity both geologically and grade-wise within a 0.3ppm shell is good. Grades and thickness are more consistent down-dip than along strike.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The Bibra mineralisation wireframes have been projected down-dip based on wider spaced drilling intercepts; however, this extrapolation has been removed from the resource estimate by limiting the reported tonnes and grade to within a conceptual optimal pit shell (\$2000/oz Au). The laterite zone modelled was 900m along strike and 230m wide in the NE widening to 560m in the southern half. It ranges from 1.7m to 14m in vertical thickness.
		The primary mineralisation extends below the laterite zone for a further vertical depth of 270m.
		The transition/fresh rock boundary is about 60m below surface. The primary mineralisation has 4 main sub- parallel zones and several smaller zones. The main zone is 900m long (N-S) and 980m wide (horizontal width) at its widest part in the north, tapering to 40m wide (horizontal width) at the southern end. The thickness of the main primary mineralisation zone ranges from 1.7m vertical thickness to 30m in the thickest part.
Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> </ul>	Higher grade wireframe domains were built for mineralisation above 1.0g/t Au in the main zones in order to constrain the higher-grade portions of the mineralisation.
		Variography was completed in Snowden's Visor geostatistical program 8.7.
		Block size, Search ellipses and discretisation and minimum and maximum samples were all determined using the variogram through a QKNA process in Visor
		The block dimensions were 12.5mY, 5mX and 5mZ for parent cells, sub-blocked to 3.125mY, 1.25mX and 1.25mZ.
		Ordinary Kriging was used for grade estimation utilising Surpac software v6.6.2.



Criteria	JORC Code explanation	Commentary
	<ul> <li>Estimation of deleterious elements or other non- grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	Grade estimation was constrained to blocks within each of the mineralisation wireframes.
		The search directions have been determined from variographic and geological analysis by grouped domain.
		Pass 1 – min 6, max 36 samples, with a drillhole sample limit of 3 samples per drillhole inside a search ellipse of 50 m by 50 m by 10 m.
		Pass 2 – min 6, max 36 samples, with a drillhole sample limit of 3 samples per drillhole inside a search ellipse of 100 m by 100 m by 20 m.
		Pass 3 – min 3, max 36 samples inside a search ellipse of 100 m by 100 m by 20 m.
		Pass 4 – min 3, max 36 samples inside a search ellipse of 400 m by 400 m by 80 m
		For the minimum number of drill holes for each block to estimate, the parameters were set to a minimum of 3 for the first pass, minimum of 3 for the second pass and minimum of 3 for the third pass.
		No mining has occurred at Bibra.
		No assumptions have been made regarding by- products
		No deleterious elements are known or expected.
		Only Au has been modelled.
		The geological interpretation was used to control mineralisation modelling and to assign densities to rock- types.
		Top-cuts were established after a study of statistics, histograms and log-probability plots for the main domains. Domains which had CV's above 2 were top cut, until the CV for the domain was below a CV of 2. 25 samples were cut.
		The block model is checked visually in Surpac and Micromine by comparing drillhole assays with block grades.
		Swath plots are generated to compare block grades with sample composite grades on a sectional and plan slice basis.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages have been estimated on a dry basis. Core samples in the oxide zone have been measured for density after drying and coating at an independent laboratory and downhole gamma used in the 2016 program. 2012 density samples in the Transition and fresh rock samples have been tested uncoated on site after sun-drying, and added to the database of samples tested by the independent laboratory. Measurements in 2012 confirmed earlier density measurements for rocktype and oxidation. 2016 bulk density samples in the oxide, transitional and fresh material were measured at Intertek laboratories in Perth.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The mineralisation has been wireframe modelled using a 0.3g/t Au assay cut-off grade. The resource estimate has been reported above a block grade of 0.5g/t Au.
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining</li> </ul>	Currently a medium-sized contractor-operated open-pit mining option is the basis for the cut-off grade. Ore and waste would be paddock blast on 5m benches and



Criteria	JORC Code explanation	Commentary
	dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	subsequently excavated as 2.5m flitches utilising a conventional excavator and truck mining fleet to facilitate moderate ore excavation selectivity. Internal dilution to 2m has been included and external dilution has been applied to the estimate by re-blocking to a selective mining unit (smu) of 3.125 m x 1.25 m x 1.25 m.
<i>Metallurgical factors or assumptions</i>	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Test work was completed during 2017 using 32 composite samples from 779metres of core. The Bibra ore is classified as free milling, with a high gravity recoverable gold component (up to 45%). Overall, gravity plus leach gold recoveries are in the range of 93% to 96%. The Bibra ore is relatively clean, with minimal to no cyanide or oxygen consuming gangue minerals present in the ore, leading to low residual WAD cyanide levels (<50ppm) in the leach circuit tailings solution.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Waste rock from open pit operations would be placed in a waste rock landform adjacent to open pit operations, progressively contoured and revegetated throughout mine life. Process plant residue would be disposed of in a surface tailings storage facility (TSF). Adoption of an upstream, central decant design would utilise mine waste material for dam wall construction and facilitate water recovery to supplement process water requirements. It is expected that sufficient volumes of oxide material, able to be made sufficiently impermeable, will be available in the overburden stream to enable acceptable TSF construction.
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	Densities were based on measured densities sorted by rock type and oxidation state. In 2016 drill program transitional and fresh samples core samples were analysed by water immersion method by Intertek laboratories. In the 2012 core drilling program, all samples sent for analysis from the transition or fresh rock zones were density measured. Density determination by the water immersion method. Some assumptions have been made on rocktypes away from the classified resource area. Bulk densities in the classified area assigned to the block model are based on measured data
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	The Inferred, Indicated and Measured classification reflects the relative confidence in the estimate, the confidence in the geological interpretation, the drilling spacing, input data, the assay repeatability and the continuity of the mineralisation. The inferred classification was constrained to a \$2000 oz AUD conceptual optimal pit shell where the drill spacing was between 50mx50m and 100x100m Indicated classification was constrained to a \$1750 oz AUD pit shell with drill spacings between 25mx25m to 50m x 50m. Measured material was constrained by the Reserve stage 2 design pit, 25mx25m drilling and only



Criteria	JORC Code explanation	Commentary
		Laterite and Main Hangingwall and Main footwall domains
		This classification reflects the Competent Person's view of the deposit.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	The resource model has been reviewed for fatal flaws internally.
Discussion of relative accuracy/confid ence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant to the relation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and</li> </ul>	The confidence level is reflected in the classification of the estimate. Mineralisation modelled but outside the criteria used for classification has been excluded from the estimate. Potential for upgrading the classification exists if closer spaced holes are drilled in the inferred and indicated areas. The Mineral Resource estimate is an undiluted global estimate. There is no production data to compare the resource estimate with, as Bibra has not been mined.
	confidence of the estimate should be compared with production data, where available.	

