

ASX RELEASE 10<sup>th</sup> June 2014

### **CONDITIONAL ACQUISITION OF OPTIONS OVER GOLD PROJECTS**

## <u>Highlights:</u>

- Torian Resources NL has entered into a conditional heads of agreement with Cascade Resources Limited to acquire options over a number of prospective gold projects located in the Goldfields region of Western Australia
- Delivers on the Company's previously announced strategy to generate shareholder value by acquisition
- Projects identified by Cascade via a detailed regional review and secured by strong relationships with project owners
- The projects host an existing Inferred JORC Resource of 115,227 oz Au
- Significant drill program planned to commence immediately following completion of the acquisition
- Technical and regional knowledge of Torian's Board to be elevated with the addition of Mr Matthew Sullivan and Mr Andrew Sparke to a reconstituted Board
- Torian shareholders to vote on various resolutions to approve the acquisition at an Extraordinary General Meeting expected to be held following completion of satisfactory due diligence

The Board of Torian Resources NL (**Torian** or **Company**) are pleased to announce the execution of a conditional heads of agreement with Cascade Resources Limited (**Cascade**) to acquire the options Cascade holds over a number of gold projects located in the Goldfields region of Western Australia with an existing Inferred JORC resource of 115,227 oz Au (**Acquisition Options**).

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The Goldfields region of Western Australia has an extensive history of gold mineralisation with several multi-million ounce discoveries, numerous producing mines and the presence of some of the world's largest gold exploration and production companies. The projects were identified by the technical team at Cascade Resources Limited through a combination of a detailed regional study, deep experience in the region and strong on-ground relationships.

Cascade's technical team is led by Matthew Sullivan, an experienced geologist, who has lived and worked in the Goldfields region for over 25 years. Matthew is acclaimed for the discovery of a number of large gold deposits in the region including Kanowna Belle (6Moz) and East Kundana (3.5Moz).

Chairman of Torian Resources Nathan Taylor said "These projects provide an exciting opportunity for Torian Resources and this transaction is an important step towards our stated goal of delivering shareholder value by acquisition."

Further detail in relation to the projects and proposed transaction terms are provided below and in the attached appendices.

### **Overview of Projects:**

Torian has acquired options over 11 gold prospects in the goldfields region of Western Australia that comprise 4 key projects being the Taurus Project, the Mt Stirling Project, the Mt Keith Project and the Malcolm Project.

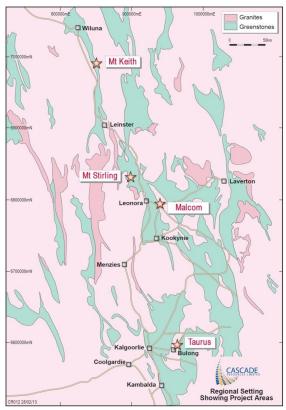


Figure 1: Location of Projects - Goldfields Region Western Australia



The projects host an existing Inferred JORC Resource of 115,227 oz Au across these 4 key projects.

Project	JORC Category	Total Pro	ject Re	Torian's Interest	
Project	Joke category	Tonnes	g/t Au	Oz	(assuming exercise of options)
Taurus	Inferred	1,536,000	1.24	61,250	100%
Mt Stirling <sup>1</sup>	Inferred	259,750	2.44	20,400	51 - 90% <sup>1</sup>
Mt Stirling Well <sup>2</sup>	Inferred	41,250	8.54	11,327	100%
Mt Keith	Inferred	165,000	3.11	16,500	100%
Malcolm	Inferred	48,000	3.72	5,750	51 - 90%¹
Total	Inferred	2,050,000	1.54	115,227	

- Cascade currently holds an option to acquire 51% and has the right to earn up to a 90% pursuant to the relevant joint venture agreements.
- 2. Mt Stirling Well is a prospect within the Mt Stirling Project

A detailed summary of the supporting project assumptions and data (Table 1 as per JORC (2012) guidelines) is provided in the Appendix.

### **Taurus Project**

The Taurus Project will be Torian's flagship project and is located approximately 35 kilometres east of Kalgoorlie. Under the proposed acquisition, Torian will conditionally acquire an option to acquire 100% of 11 mining and exploration tenements covering an area of 16 square kilometres. The Taurus Project has an Inferred JORC resource of 1,536,000 tonnes @ 1.24 g/t Au. The Taurus Project also has a number of small scale underground mines and workings which have seen previous gold production.

There are four high priority drill targets at the project, some of which have been exploited historically on a small scale. An exploration program at the Taurus Project is planned to commence immediately after transaction completion with the aim of growing the existing JORC Inferred resource.

Access from Kalgoorlie to the Taurus Project is via a 35 kilometre bitumen and gravel road. The Taurus Project is situated within 50 kilometres of several operating gold processing plants.

The Taurus Project is along strike of Silver Lake Resources Limited's Mt Monger Project (10.3Mt at 7.22g/t for 2.4Moz Au) and is bordered by Silver Lake Resources Limited (ASX:SLR) and Southern Gold Limited's (ASX:SAU) leases. Previous metallurgical testwork on this project indicated that a significant proportion (more than 75%) of the gold is coarse grained (+1mm).



Previous drill sampling has utilised a range of drilling methods (reverse circulation and diamond drilling), different hole sizes and assay methods that may not have sampled the coarse gold effectively. A more rigorous drilling and sampling programme designed to more precisely determine the in-situ grades at the Taurus Central prospect is fundamental to understanding the true grade of this resource.

There are additional targets at the Taurus Project that have not been fully explored and evaluated. These targets will be a high priority for the Company's initial exploration program.

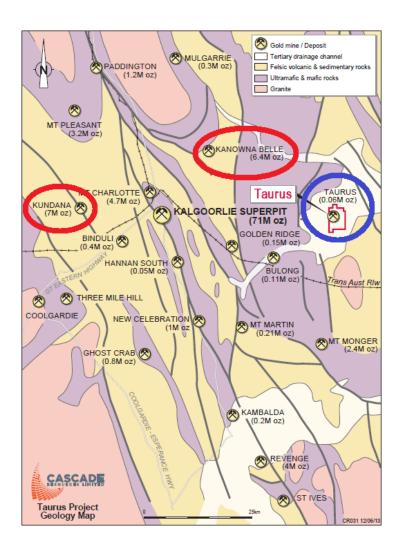


Figure 2: Map showing two multi-million Oz mines discovered by Matthew Sullivan (Red) and their proximity to the Taurus Project (Blue).



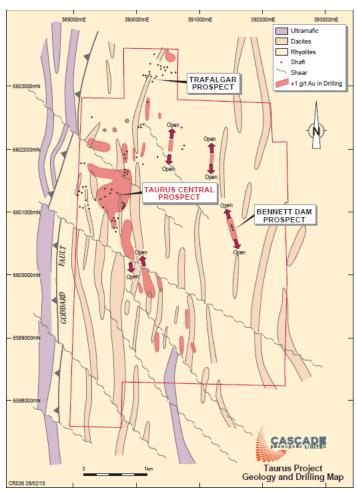


Figure 3: Map showing Taurus prospects, geology and drilling.

#### Mt Stirling Project

The Mt Stirling Project is located approximately 40 kilometres north west of Leonora. Under the proposed transaction, Torian will acquire an option to acquire 100% of the Mt Stirling Well prospect. Torian will also acquire options to acquire 51% of the Mt Stirling prospect and 51% of the Mt Cutmore prospect with an option to earn up to 90% of each prospect under the terms of two separate joint venture agreements. The Mt Stirling Project comprises 19 prospecting licences covering an area of 23 square kilometres.

The Mt Stirling Well Prospect has a current JORC compliant Inferred resource at the Mt Stirling Well prospect of 41,300 tonnes @ 8.54g/t for 11,300oz Au. This resource, whilst inferred, is a high grade, oxidised system, located at surface which the Company believes may be amenable to low cost mining. This resource is open in all directions and further exploration at this prospect is a high priority.

This mineralisation is a flat lying quartz vein hosted in granite. The granite has a diameter of approximately 1 kilometre and there is potential for the current resource to grow significantly.



Previous drilling at the prospect occurs over a strike length of approximately 200 metres and there is no drilling deeper than about 40 metres.

Between 1897 and 1913, a small underground mine was active at the Mt Stirling Well prospect. Recorded production from the mine was 3,354 tonnes @ 52.02g/t Au for 5,610 oz's Au.

Previous exploration at the Mt Stirling Project has focused on a small number of targets defined by old workings. RC drilling was conducted at these targets however they remain open along strike and down dip. The Mt Stirling Project has a number of other targets that have been defined by surface sampling that have not been drill tested to date.

#### Mt Keith Project

The Mt Keith Project is located approximately 60 kilometres south of Wiluna. Under the proposed transaction, Torian will acquire an option to acquire 100% of the Mt Keith Project. The Mt Keith Project comprises two mining leases covering an area of approximately 12 square kilometres.

The Mt Keith Project has received superficial exploration to date, focusing on historic workings. Several reconnaissance RAB holes have intersected anomalous values away from the historic workings. Many of these have not been followed up by RC drilling. In addition Inferred resources have been defined from previous shallow RC drilling. All resources remain open along strike and also at depth.

Other targets have been defined from previous soil geochemical sampling and areas of gold nuggets being found at or very near surface. Most of these areas have never been drill tested.

## **Malcolm Project**

The Malcolm Project is located approximately 20 kilometres east of Leonora. Under the proposed transaction Torian will acquire an option to acquire 100% of the Rabbit Warren South prospect and options to acquire 51% interests in the Mt Stewart, Braemore, Malcolm and Mt George Prospects. Torian has the right to earn up to 90% of each of these Prospects under the terms of various joint venture agreements. The Malcolm Project comprises 54 tenements covering an area of approximately 75 square kilometres.

The Malcolm Project has received only superficial exploration to date, focusing on historic workings. Several reconnaissance RAB holes have intersected anomalous values away from the historic workings. Many of these have not been followed up by RC drilling. In addition JORC Inferred resources have been defined from previous shallow RC drilling. All resources remain open along strike and also at depth.



Other targets have been defined from previous soil geochemical sampling and areas of gold nuggets being found at or very near surface. Most of these areas have never been drill tested.

## **Heads of Agreement:**

The key terms of the Heads of Agreement are outlined below:

#### **Consideration**

The consideration payable by the Company under the proposed transaction is 33,333,333 fully paid ordinary shares in the capital of the Company (**Shares**) on a post-Consolidation basis (being 1,100,000,000 Shares on a pre-Consolidation basis) to Cascade Resources Limited.

#### **Escrow Arrangements**

The following parties will be subject to a minimum of 12 months escrow:

- Cascade Resources Limited;
- The Project Vendors; and
- Certain holdings of the existing Directors of Torian.

#### **Conditions Precedent**

The acquisition by the Company of the Acquisition Options held by Cascade will be conditional upon:

- The Company re-complying with Chapters 1 and 2 of the ASX Listing Rules;
- Torian completing due diligence on Cascade to its satisfaction;
- Cascade completing due diligence to its satisfaction on Torian;
- The Project Vendors agreeing to enter into assignment of the Acquisition Options to the satisfaction of Torian;
- Both Torian and Cascade obtaining all required shareholder approvals necessary for the proposed transaction;
- The Company undertaking a consolidation of capital on a ratio of 33:1, occurring simultaneously with the issue of the consideration (**Consolidation**);
- The Company completing a capital raising of up to \$4,000,000 through the issue of up to 20,000,000 Shares at an issue price of \$0.20 per Share, on a post-Consolidation basis (being 660,000,000 Shares on a pre-Consolidation basis); and
- The appropriate entities entering into voluntary escrow agreements.



## **Issue of Shares to Vendors**

The Company will issue 7,200,000 Shares on a post-consolidation basis (being 237,600,000 Shares on a pre-Consolidation basis) and pay \$1,060,000 cash to the vendors of the projects in consideration for the exercise of the Acquisition Options.

## **Re-Compliance with ASX Listing Rules Chapters 1 And 2:**

ASX has confirmed that the proposed transaction will result in a significant change to the nature and scale of Torian's activities and that ASX Listing Rules 11.1.2 and 11.1.3 will apply to the proposed transaction. The proposed transaction will therefore require the approval of Torian shareholders under ASX Listing Rule 11.1.2 and will also require Torian to re-comply with Chapters 1 and 2 of the ASX Listing Rules.

## **Shareholder Approvals:**

A notice of meeting seeking shareholder approval for the resolutions required to effect the proposed transaction will be sent to Torian shareholders in due course. It is expected that Torian will convene a meeting to facilitate shareholder approval in August 2014.

On the date of the meeting, Torian securities will be suspended and, subject to Torian shareholder approval being obtained, will remain suspended until Torian has re-complied with ASX Listing Rules and the proposed transaction has taken effect.

#### **Proposed Capital Structure:**

The anticipated effect of the Proposed Transaction on the capital structure of the Company is set out in the table below. The table assumes that shares have previously been issued to unsecured creditors as announced 8 April 2014.



	Shares	Options
Securities on issue pre consolidation and post debt conversion	500,332,463	30,200,000 <sup>1</sup>
Securities on issue post consolidation <sup>2</sup> (33:1)	15,161,590	915,151
Consideration for Proposed Transaction	33,333,333	Nil
Capital Raising	20,000,000	Nil
Project Vendors	7,200,000	Nil
Total	75,694,923	915,151

#### Notes:

- 1. 5,075,000 unlisted options exercisable at 20 cents each on or before 31 December 2014, 5,075,000 unlisted options exercisable at 22 cents each on or before 31 December 2014, 10,000,000 unlisted options exercisable at 4.6 cents each on or before 29 December 2015, 5,025,000 unlisted options exercisable at 24 cents each on or before 31 December 2015 and 5,025,000 unlisted options exercisable at 26 cents each on or before 31 December 2015.
- 2. The Consolidation will result in the price of Shares increasing from approximately \$0.006 to approximately \$0.20.

#### **Proposed Board Changes:**

Torian is pleased to welcome Mr Matthew Sullivan and Mr Andrew Sparke to the Board effective immediately. Matthew and Andrew add significant technical and corporate knowledge to the existing Board of Torian. Detailed biographies are set out below. As part of the proposed transaction the board will be reconstituted as follows:

Non-Executive Chairman: Mr Andrew Sparke Managing Director: Mr Matthew Sullivan Executive Director: Mr Sunil Dhupelia Non-Executive Director: Mr Nathan Taylor

#### Mr Matthew Sullivan (Incoming Managing Director)

- Experienced geologist and listed company director with 25 years experience working in the Goldfields of WA.
- One of only 6 geologists in Australia to find more than 3Moz's twice.
- Significant discoveries include Kanowna Belle (6Moz's), East Kundana (3.5Moz's), Selene (800Koz's), Safari Bore (400Koz's), St Patricks (400Koz's) and in the Leonora region (500Koz's).



- Second in Australian explorer of the year (2010) for the discovery of 500K oz's in 5 months in Leonora.
- Total discovery of circa 12Moz's Au.
- B.App. Sc (Applied Geology), AusIMM.

## Mr Andrew Sparke (Incoming Non-Executive Chairman)

- 10 years Corporate Finance experience that includes IPO's, private placements and secondary market transactions.
- Advised a number of ASX listed companies on capital raisings and corporate transactions.
- Director of a number of public and private companies including Olive Capital Pty Ltd.
- B.Bus (Marketing), M.Fin (Current), MAICD.

## **Proposed Indicative Timetable\*:**

Event	Date
ASX announcement of the Proposed Transaction	June 2014
Due Diligence	Commencing June 2014
Send Notice of Meeting seeking approval for Capital Raising, Consolidation and issue of Shares as consideration for the Proposed Transaction	July 2014
Lodge Prospectus and Offer Opens (Securities suspended from this date)	August 2014
Shareholder meeting	August 2014
Complete Capital Raising	August / September 2014
Satisfaction (or waiver) of other Conditions	September 2014
Completion of Proposed Transaction	September 2014
Securities resume trading	September 2014

<sup>\*</sup> This timetable is indicative only and subject to change.

For further information please contact:

Elissa Hansen Company Secretary 02 9290 9606



## **Competency Statement**

The information in this report relation to Exploration Results and Mineral Resources is based on information reviewed by Mr Matthew Sullivan who is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient exploration experience which is relevant to the style of mineralisation under consideration to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves'. Mr Sullivan is a director of Torian Resources and Cascade Resources and consents to the inclusion of the matters based on his information in the form and context in which it appears.



## ANNEXURE A - PRO FORMA BALANCE SHEET AS AT 31 MARCH 2014

The unaudited pro-forma Balance Sheet has been prepared to provide information on the assets and liabilities of the Company and pro-forma assets and liabilities of the Company as noted below. The historical and pro-forma financial information is presented in an abbreviated form, insofar as it does not include all of the disclosures required by Australian Accounting Standards applicable to annual financial statements.

#### Balance Sheet and Pro Forma Balance Sheet as at 31 March 2014

	Balance Sheet	Pro Forma	Note	Unaudited
	31-Mar-14	Adjustments		Pro Forma Balance
				Sheet
				31-Mar-14
ASSETS				
CURRENT ASSETS				0.00= 0.4
Cash and cash equivalents	221,636	2,785,375	1	3,007,011
Trade and other receivables	44,626	-		44,626
TOTAL CURRENT ASSETS	266,262	2,785,375	-	3,051,637
NON-CURRENT ASSETS				
Financial assets	350,000	(250,000)	2	100,000
Property, plant and equipment	16,857	-		16,857
Exploration and evaluation assets	<u> </u>	8,560,606	3	8,560,606
TOTAL NON-CURRENT ASSETS	366,857	8,310,606		8,677,463
TOTAL ASSETS	633,119	11,095,981		11,729,100
LIABILITIES				
CURRENT LIABILITIES				
Trade and other payables	311,899	(100,000)	4	211,899
Financial liabilities	708,152	(708,152)	5	-
TOTAL CURRENT LIABILITIES	1,020,051	(808,152)	-	211,899
TOTAL LIABILITIES	1,020,051	(808,152)		211,899
NET ASSETS	(386,932)	11,904,133		11,517,201
EQUITY				
Issued capital	55,209,411	11,804,133	6	67,013,544
Reserves	1,995,700	-		1,995,700
Accumulated losses	(57,592,043)	100,000	7	(57,492,043)



TOTAL EQUITY (386,932) 11,904,133 11,517,201

#### **Pro Forma Adjustment Notes:**

- 1. Recognition of net cash below adjustments and inclusive of cash raised of \$3.6 million (\$4 million net of costs of raising share capital). Additional funds of \$350,000 anticipated to be recovered by way of exercise of put option (see note 2) and recoup of \$100,000 in rehabilitation bonds (see note 7). Reductions in cash relate to \$1,060,000 option payment to Cascade and smaller reductions to pay interest owed as part of debt conversion (see Note 5);
- 2. Reduction in \$350,000 shares in Elsmore Resources Limited by \$250,000 in put options. Exercise of put option reflected by corresponding \$250,000 increase to net cash (included in net adjustments at 1 above);
- 3. Exploration assets purchased by way of issue of shares to purchase option agreements owned by Cascade, and cash and share issues to exercise the options, which are all costs associated with acquiring the underlying tenements;
- 4. Net \$100,000 accrued liability reduction as a result of scrip issues which will discharge part of accrued Directors fees and rental owed to related parties;
- 5. Debt conversion and full reduction of loans payable to related and third parties on the following basis:
  - a. \$150,000 payable to Mr Ian Johns/his related entities discharged by share issue;
  - b. \$198,216 payable to former Director Mr Peter Ashcroft/his related entities discharged by share issue;
  - c. \$278,524 owed in loans that have been agreed to be converted into scrip. \$255,312 in principal to be repaid in scrip and \$23,212 in interest owed to be paid via cash;
  - d. \$81,412 loan payable inclusive of interest to be repaid in cash;
- 6. Issue of capital to reflect the acquisition of Cascade and exercise of options in addition to all agreed conversions of debt or trade payables;
- 7. Reduction in carried forward losses to account for receipt of conservatively estimated \$100,000 in rehabilitation bonds on transfer/surrender of tenements. Note that in prior audited financial statements auditors recommended the write off of these bonds and they were impaired however the company has a track record of recovering these bonds and they are highly likely to be received. On receipt the impairment will be reversed and will result in a net favourable reduction in carried forward losses.



## ANNEXURE B - JORC CODE, 2012 EDITION TABLES

# Taurus Project

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		
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>All data and results referred to in this report are historic, and date from the late 1980s to the present day. This data has been judged to be reliable following independent research, including discussions with previous operators and explorers in person.</li> <li>Samples were collected via Rotary Air Blast (RAB) and Reverse Circulation (RC) drill chips. A minor number of diamond drillholes (DD) were drilled at Taurus.</li> <li>All drilling yielded samples on a metre basis. RAB drilling samples were commonly composited into intervals of 4 or 5m, with selected individual or 2m resamples collected. Reverse Circulation (RC) drilling is utilised to obtain 1 m samples which are riffle split, from which approx. 2-3 kg is pulverised to produce a 50 g charge for fire assay. Diamond core is sawn in half before crushing, pulverising and assaying.</li> <li>Sample preparation method is total material dried and pulverized to nominally 85% passing 75 µm particle size. Gold analysis method is generally by 50g Fire Assay, with Atomic Absorption Spectrometry (AAS) finish (DL 0.01 – UL 50 ppm Au). Samples exceeding the upper limit of the method were automatically re-assayed utilizing a high grade gravimetric method.</li> </ul>		
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>RAB holes were typically 100mm in diameter, RC drilling usually 155mm in diameter; diamond drilling was either NQ (50mm) or HQ (63mm). Triple tube coring was used in oxide zones. Core was orientated where possible via spear to mark the bottom of the hole. RC drilling was via a face sampling hammer.</li> </ul>		



Criteria	JORC Code explanation	Commentary
Drill sample recovery	<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>	<ul> <li>Recoveries were logged onto paper logs during drilling. Recoveries were visually assessed.</li> <li>Sample recoveries were maximised in RAB and RC drilling via collecting the samples in a cyclone prior to sub sampling. Diamond drilling used drilling muds to reduce loss of core in oxide zones and careful monitoring of the pumping of drilling fluids. RAB drillholes were stopped if significant water flows were encountered.</li> <li>No relationship appears from the data between sample recovery and grade of the samples.</li> </ul>
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> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All drillholes were geologically logged, whilst the diamond holes at Taurus also have geotechnical logs. This logging appears to be of high quality and suitable for use in further studies.</li> <li>Logging is qualitative in nature.</li> <li>All samples / intersections are logged. 100% of relevant length intersections are logged.</li> </ul>
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, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <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 representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Non-core RC drill chip sample material is riffle split, where sample is dry. In case of wet sample a representative 'grab' sample method is utilized.</li> <li>The sample preparation technique is total material dried and pulverized to nominally 85% passing 75 µm particle size, from which a 50g charge was representatively riffle split off, for assay.</li> <li>Standard check (known value) sample were not used in all cases. Where used the known values correspond closely with the expected values. A duplicate (same sample duplicated) were commonly inserted for every 20 or 30 samples taken.</li> <li>There is a significant amount of coarse gold at Taurus. This is reflected in the poor repeatability of some samples and also noted on the drill logs.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and 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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>Various independent laboratories have assayed samples from the projects over the years. In general they were internationally accredited for QAQC in mineral analysis.</li> <li>No geophysical tools have been used to date.</li> <li>The laboratories inserted blank and check samples for each batch of samples analysed and reports these accordingly with all results.</li> </ul>



Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<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 procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Selected significant intersections were resampled from original remnant sample material and analysed again.</li> <li>Generally few twinned holes have been used to date, though some are present at Taurus.</li> <li>Documentation of primary data is field log sheets (hand written). Primary data is entered into application specific data base. The data base is subjected to data verification program, erroneous data is corrected. Data storage is retention of physical log sheet, two electronic backup storage devices and primary electronic database.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole 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> <li>Survey control used is satellite based differential GPS total station. Down hole surveys were completed on most RC and diamond drillholes at Taurus, but not the other projects. These surveys were via a single shot down hole tool. As the other areas contain drillholes to no more than 100m significant deviations are not expected.</li> <li>Grid systems are various local grid converted to MGA coordinates.</li> <li>Topographic control is accurate to +/- 0.5 m.</li> </ul>
Data spacing and distribution	<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>	<ul> <li>The drill spacing is variable but generally no greater than 200m by 40m, with some areas infilled to 40m by 40m and 20m by 20m. Certain small areas at Taurus are drilled to 10m by 10m.</li> <li>The infilled areas have drilling density sufficient for JORC Inferred category. Further infill will be required for other categories.</li> <li>Apart from the reconnaissance RAB drilling, no sample compositing has been used.</li> </ul>
Orientation of data in relation to geological structure	<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>	<ul> <li>Apart from some vertical reconnaissance RAB drilling, the orientation of the drilling is approximately at right angles to the known mineralisation and so gives a fair representation of the mineralisation intersected.</li> <li>No sampling bias is believed to occur due to the orientation of the drilling.</li> </ul>
Sample security	The measures taken to ensure sample security.	Samples were delivered to the laboratory in batches at regular intervals.  These are temporarily stored in a secure facility after drilling and before delivery
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The company engages independent consultants who regularly audit the data for inconsistencies and other issues. None have been reported to date.



# Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

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>	<ul> <li>The details relating to the tenements are located in the Tenement Status section of this report.</li> <li>Details of tenement status are discussed elsewhere in this report.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>All work relating to previous exploration contained within this report was completed by other parties. Details are included in the references.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	Details of the geology are found elsewhere in this report.
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>	<ul> <li>Details of the drilling, etc are found within the various tables and diagrams elsewhere in this report.</li> <li>No material information, results or data have been excluded.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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>	<ul> <li>Weighted averages were calculated by a simple weighting of from and to distances down each hole. Most samples are 1 metre samples. No top cuts were applied. Lower cut-offs used were – Taurus 0.5g/t Au.</li> <li>A small number of high grade (+10g/t Au) values are present in the drill results at Taurus. These are shown in the tables elsewhere in this report.</li> <li>No metal equivalent values are used</li> </ul>
Relationship between	These relationships are particularly important in the reporting of Exploration Results.	Details of geology, and selected cross sections are given elsewhere in this report



Criteria	JORC Code explanation	Commentary
mineralisation widths and intercept lengths	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be 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 (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>The drilling has been carried out either as vertical holes or steeply inclined towards the east. The mineralisation is gently dipping towards the west and so the drilling orientation is approximately at right angles to the mineralisation.</li> <li>Drill results are reported as down hole widths these are very close to true widths given the dip of the mineralisation and the angle of the holes.</li> </ul>
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>	<ul> <li>Details of geology, and selected cross sections are given elsewhere in this report.</li> </ul>
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Details of the results, drilling, etc are reported elsewhere in this report.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>Details of geology, and selected cross sections are given elsewhere in this report.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg 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>	<ul> <li>Proposed work included drilling of selected twin holes followed by infill and step out RC drilling across all resources. The aim of such work is to increase confidence in the data and also to test for extensions to the known resources. Budgets are being prepared for this work at present.</li> <li>In addition a significant number of additional prospects are known to exist within the projects as defined by previous RAB and RC drilling intersections. These will form the second phase of exploration.</li> <li>Various maps and diagrams are presented elsewhere in this report to highlight possible extensions and new targets.</li> </ul>

# Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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</li> </ul>	<ul> <li>The database was checked against the hard copy originals for validity.</li> <li>Data validation checked consistency of features such as hole depth,</li> </ul>



Criteria	JORC Code explanation	Commentary
	Mineral Resource estimation purposes.  Data validation procedures used.	consistent down hole surveys, duplicate assays, etc.
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>	<ul> <li>The competent person made site visits to all projects during the course of the last year.</li> </ul>
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>	<ul> <li>The geology of the various resources is reasonably well documented and understood. Most are in areas of outcrop and so direct observation of dips, strikes, widths, etc have been made.</li> <li>3D models of the geology were commonly used as a guide for the interpretation of the mineralization.</li> <li>Continuity is assumed to be from hole to hole. As the maximum spacing of holes is 40m in the resources this appears to be a reasonable assumption. At all times the geology guided the continuity. No faults or other dislocations that may influence the geological continuity are known within the resources.</li> </ul>
Dimensions	<ul> <li>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.</li> </ul>	<ul> <li>The widths of the mineralisation within the resources are fairly uniform. The strike and dip extents of the mineralisation in the various resources is determined solely by drilling.</li> </ul>
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> <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> </ul>	<ul> <li>The resources were estimated using Micromine software. The mineralization was wireframed at the cut off grades stated above. Where high grade domains were noted these were subset from the overall wireframes.</li> <li>Where historic workings are also mapped these were also wireframed and deducted from the resource. These estimates were validated against historic production records where known.</li> <li>Geological models were used to constrain the mineralization models. The method used is considered to be suitable for the estimation of Inferred Resources. More complex methods may be appropriate for resources of higher category.</li> <li>There is modest previous mining activity across most of the resources. These provide evidence of width, dip, strikes, etc. In the case of Taurus there was a previous estimate of resources made in the 1990s. This was not JORC compliant and pre-dates the drilling of many later RC and diamond drillholes.</li> <li>Top cuts were not applied, however their influence on the wireframes was reduced by domaining high grade zones separately.</li> <li>No data was available for reconciliation. The model was compared to the drill</li> </ul>



Criteria	JORC Code explanation		Commentary		
		ss of validation, the checking process used, the comparison of a to drill hole data, and use of reconciliation data if available.		data directly on section using the geological features as a guide. Minor adjustments were made following this.	
Moisture		he tonnages are estimated on a dry basis or with natural moisture, ethod of determination of the moisture content.	•	The estimates are made on a dry basis as little information exists reliably outlining the moisture contents.	
Cut-off parameters	• The basis	of the adopted cut-off grade(s) or quality parameters applied.	•	The lower cut off were arbitrarily assigned after a visual assessment of the mineralization on cross sections. No upper cuts were applied, but their potential influence was reduced by separately domaining any high grade areas.	
Mining factors or assumptions	dimension always ne for eventu the assum estimating	ons made regarding possible mining methods, minimum mining is and internal (or, if applicable, external) mining dilution. It is cessary as part of the process of determining reasonable prospects al economic extraction to consider potential mining methods, but options made regarding mining methods and parameters when it Mineral Resources may not always be rigorous. Where this is the should be reported with an explanation of the basis of the mining ons made.	•	All resources are assumed to be open pittable. This is due to the oxide nature of the upper parts of the resources and the relatively shallow nature of the drilling to date. No mining studies have been made to date for any resource.	
Metallurgical factors or assumptions	It is alway: prospects methods, i and paran rigorous. V	for assumptions or predictions regarding metallurgical amenability. It is necessary as part of the process of determining reasonable for eventual economic extraction to consider potential metallurgical but the assumptions regarding metallurgical treatment processes neters made when reporting Mineral Resources may not always be Where this is the case, this should be reported with an explanation is of the metallurgical assumptions made.	•	All mineralisation is assumed to be free milling on the basis of historic data. The Taurus mineralization contains a significant amount of coarse gold as noted in previous metallurgical reports. Most other resource contain some visible gold either in panned drill cuttings or directly observed in historic workings. A significant proportion of gravity recoverable gold would be expected in any future processing.	
Environmental factors or assumptions	<ul> <li>Assumption options. It reasonable potential e While at the particularly status of e be reporte</li> </ul>	ons made regarding possible waste and process residue disposal is always necessary as part of the process of determining a prospects for eventual economic extraction to consider the environmental impacts of the mining and processing operation. This stage the determination of potential environmental impacts, by for a greenfields project, may not always be well advanced, the early consideration of these potential environmental impacts should d. Where these aspects have not been considered this should be with an explanation of the environmental assumptions made.	•	The assumed operations will have typical waste dumps as seen in many sites across Western Australia. These include dewatering and tailings disposal facilities.  No assumed operation in the future will have an unusual impact on the environment.	
Bulk density	If determin	ssumed or determined. If assumed, the basis for the assumptions. ned, the method used, whether wet or dry, the frequency of the nents, the nature, size and representativeness of the samples.	•	Bulk densities were assumed due to only a small amount of data being available at Taurus. An SG of 2.2t/m3 was assumed for all material. This reflects the semi oxidised nature of most of the material.	



Criteria	JORC Code explanation	Commentary
	<ul> <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>	<ul> <li>The bulk density data was derived from a combination of direct SG measurements from diamond drill core and a limited number of bulk samples collected during previous metallurgical testwork. These account for voids etc.</li> <li>The bulk densities were averaged over various geological units such as completely oxidised material, semi oxidised and fresh rock. An overall SG of 2.2 was used which reflects the semi oxidised nature of the majority of the material.</li> </ul>
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>	<ul> <li>The classification of all resources as Inferred reflects various unknowns of the data. Despite this there is sufficient continuity of the mineralisation across all resources.</li> <li>As currently understood these estimates give a fair reflection of the resources.</li> <li>The classification is in the competent person's view appropriate for the nature and data relating to the resource.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>The resources have received a number of peer reviews. No key issues were raised.</li> </ul>
Discussion of relative accuracy/ confidence	<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 tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>The classification of the resources as Inferred reflects the presently understood confidence in the continuity of dimensions and grade of the resources.</li> <li>Various features require additional drilling. For example the coarse gold at Taurus needs additional sampling. In all cases the resources remain open, particularly down dip.</li> <li>A more rigorous statistical understanding of the mineralisation in the resources will be made following more detailed drilling.</li> <li>The resources stated in this report relate to local estimates. Further drilling is warranted before any economic evaluation is made.</li> <li>Details of assumptions used are stated in the report.</li> </ul>



# Mt Stirling Project

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
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>All data and results referred to in this report are historic, and date from the late 1980s to the present day. This data has been judged to be reliable following independent t research, including discussions with previous operators and explorers in person.</li> <li>Samples were collected via Rotary Air Blast (RAB) and Reverse Circulation (RC) drill chips.</li> <li>All drilling yielded samples on a metre basis. RAB drilling samples were commonly composited into intervals of 4 or 5m, with selected individual or 2m resamples collected. Reverse Circulation (RC) drilling is utilised to obtain 1 m samples which are riffle split, from which approx. 2-3 kg is pulverised to produce a 50 g charge for fire assay.</li> <li>Sample preparation method is total material dried and pulverized to nominally 85% passing 75 µm particle size. Gold analysis method is generally by 50g Fire Assay, with Atomic Absorption Spectrometry (AAS) finish (DL 0.01 – UL 50 ppm Au). Samples exceeding the upper limit of the method were automatically re-assayed utilizing a high grade gravimetric method.</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>RAB holes were typically 100mm in diameter, RC drilling usually 155mm in diameter. RC drilling was via a face sampling hammer.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> </ul>	<ul> <li>Recoveries were logged onto paper logs during drilling. Recoveries were visually assessed.</li> </ul>
	<ul> <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</li> </ul>	<ul> <li>Sample recoveries were maximised in RAB and RC drilling via collecting the samples in a cyclone prior to sub sampling. RAB drillholes were stopped if significant water flows were encountered.</li> </ul>
	whether sample bias may have occurred due to preferential loss/gain of	<ul> <li>No relationship appears from the data between sample recovery and grade of</li> </ul>



Criteria	JORC Code explanation	Commentary
	fine/coarse material.	the samples.
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> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All drillholes were geologically logged. This logging appears to be of high quality and suitable for use in further studies.</li> <li>Logging is qualitative in nature.</li> <li>All samples / intersections are logged. 100% of relevant length intersections are logged.</li> </ul>
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, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <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 representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Non-core RC drill chip sample material is riffle split, where sample is dry. In case of wet sample a representative 'grab' sample method is utilized.</li> <li>The sample preparation technique is total material dried and pulverized to nominally 85% passing 75 µm particle size, from which a 50g charge was representatively riffle split off, for assay.</li> <li>Standard check (known value) sample were not used in all cases. Where used the known values correspond closely with the expected values. A duplicate (same sample duplicated) were commonly inserted for every 20 or 30 samples taken.</li> <li>There is a significant amount of coarse gold at Mt Stirling Well. This is reflected in the poor repeatability of some samples and also was noted on the drill logs.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and 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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>Various independent laboratories have assayed samples from the project over the years. In general they were internationally accredited for QAQC in mineral analysis.</li> <li>No geophysical tools have been used to date.</li> <li>The laboratories inserted blank and check samples for each batch of samples analysed and reports these accordingly with all results.</li> </ul>
Verification of sampling and assaying	<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 procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Selected significant intersections were resampled from original remnant sample material and analysed again.</li> <li>No twinned holes have been used to date.</li> <li>Documentation of primary data is field log sheets (hand written). Primary data is entered into application specific data base. The data base is subjected to data verification program, erroneous data is corrected. Data storage is retention of physical log sheet, two electronic backup storage devices and primary electronic database.</li> </ul>



Criteria	JORC Code explanation	Commentary
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole 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> <li>Survey control used is hand held GPS. No down hole surveys were completed to date. As these areas contain drillholes to no more than 100m significant deviations are not expected.</li> <li>Grid systems are various local grid converted to MGA coordinates.</li> <li>Topographic control is accurate to +/- 0.5 m.</li> </ul>
Data spacing and distribution	<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>	<ul> <li>The drill spacing is variable but generally no greater than 200m by 40m, with some areas infilled to 80m by 40m.</li> <li>The areas have drilling density sufficient for JORC Inferred category. Further infill will be required for other categories.</li> <li>Apart from the reconnaissance RAB drilling, no sample compositing has been used.</li> </ul>
Orientation of data in relation to geological structure	<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>	<ul> <li>Apart from some vertical reconnaissance RAB drilling, the orientation of the drilling is approximately at right angles to the known mineralisation and so gives a fair representation of the mineralisation intersected.</li> <li>No sampling bias is believed to occur due to the orientation of the drilling.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples were delivered to the laboratory in batches at regular intervals.</li> <li>These are temporarily stored in a secure facility after drilling and before delivery</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The company engages independent consultants who regularly audit the data for inconsistencies and other issues. None have been reported to date.

# Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure	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	The details relating to the tenements are located in the Tenement Status section of this report.
status	<ul> <li>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 tenement status is described elsewhere in this report.
Exploration done by other	Acknowledgment and appraisal of exploration by other parties.	All work relating to previous exploration contained within this report was



Criteria	JORC Code explanation	Commentary
parties		completed by other parties. Details are included in the references.
Geology	Deposit type, geological setting and style of mineralisation.	Details of the geology are found elsewhere in this report.
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>	<ul> <li>Details of the drilling, etc are found within the various tables and diagrams elsewhere in this report.</li> <li>No material information, results or data have been excluded.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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>	<ul> <li>Weighted averages were calculated by a simple weighting of from and to distances down each hole. Most samples are 1 metre samples. No top cuts were applied. Lower cut-offs used were – Mt Stirling 1g/t Au.</li> <li>The high grade nature of the resource at Mt Stirling Well means that little low grade material has been included in the intersection table. At Mt Stirling a small amount of higher grade is consistently present in each intersection as shown in the drill results tables above.</li> </ul>
		No metal equivalent values are used
Relationship between mineralisation widths and intercept lengths	<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 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 (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>Details of geology, and selected cross sections are given elsewhere in this report</li> <li>At Mt Stirling Well the gently dipping nature of the mineralisation means that steeply inclined holes give approximately true widths. At Mt Stirling the steep dip of the mineralisation means that drill widths are exaggerated. These are shown in the tables above.</li> <li>The tables above show drill widths not true widths. In the case of Mt Stirling Well the drill widths are approximately the same as true widths.</li> </ul>
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should</li> </ul>	Details of geology, and selected cross sections are given elsewhere in this



Criteria	JORC Code explanation	Commentary
	include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	report.
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>	Details of the results, drilling, etc are reported elsewhere in this report.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>Details of geology, and selected cross sections are given elsewhere in this report.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg 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>	<ul> <li>Proposed work included drilling of selected twin holes followed by infill and step out RC drilling across all resources. The aim of such work is to increase confidence in the data and also to test for extensions to the known resources. Budgets are being prepared for this work at present.</li> <li>In addition a significant number of additional prospects are known to exist within the projects as defined by previous RAB and RC drilling intersections. These will form the second phase of exploration.</li> <li>Various maps and diagrams are presented elsewhere in this report to highlight possible extensions and new targets.</li> </ul>

# Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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>	<ul> <li>The database was checked against the hard copy originals for validity.</li> <li>Data validation checked consistency of features such as hole depth, consistent down hole surveys, duplicate assays, etc.</li> </ul>
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>	The competent person made site visits to all projects during the course of the last year.
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</li> </ul>	<ul> <li>The geology of the various resources is reasonably well documented and understood. Most are in areas of outcrop and so direct observation of dips, strikes, widths, etc have been made.</li> <li>3D models of the geology were commonly used as a guide for the interpretation of the mineralization.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>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>	<ul> <li>Continuity is assumed to be from hole to hole. As the maximum spacing of holes is 80m in the resources this appears to be a reasonable assumption. At all times the geology guided the continuity. No faults or other dislocations that may influence the geological continuity are known within the resources.</li> </ul>
Dimensions	<ul> <li>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.</li> </ul>	<ul> <li>The widths of the mineralisation within the resources are fairly uniform. The strike and dip extents of the mineralisation in the various resources is determined solely by drilling.</li> </ul>
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> <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>	<ul> <li>The resources were estimated using Micromine software. The mineralization was wireframed at the cut off grades stated above. Where high grade domains were noted these were subset from the overall wireframes.</li> <li>Where historic workings are also mapped these were also wireframed and deducted from the resource. These estimates were validated against historic production records where known.</li> <li>Geological models were used to constrain the mineralization models. The method used is considered to be suitable for the estimation of Inferred Resources. More complex methods may be appropriate for resources of higher category.</li> <li>There is modest previous mining activity across most of the resources. These provide evidence of width, dip, strikes, etc.</li> <li>Top cuts were not applied, however their influence on the wireframes was reduced by domaining high grade zones separately.</li> <li>No data was available for reconciliation. The model was compared to the drill data directly on section using the geological features as a guide. Minor adjustments were made following this.</li> </ul>
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul> <li>The estimates are made on a dry basis as little information exists reliably outlining the moisture contents.</li> </ul>
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>The lower cut off were arbitrarily assigned after a visual assessment of the mineralization on cross sections. No upper cuts were applied, but their potential influence was reduced by separately domaining any high grade areas.</li> </ul>
Mining factors	Assumptions made regarding possible mining methods, minimum mining	All resources are assumed to be open pittable. This is due to the oxide



Criteria	JORC Code explanation	Commentary
or assumptions	dimensions and internal (or, if applicable, external) mining 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.	nature of the upper parts of the resources and the relatively shallow nature of the drilling to date. No mining studies have been made to date for any resource.
Metallurgical factors or assumptions	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.	<ul> <li>All mineralisation is assumed to be free milling on the basis of historic data.         The Mt Stirling Well mineralization contains a significant amount of coarse gold as noted in previous assay reports. Some visible gold was panned drill cuttings at Mt Stirling Well and also directly observed in historic workings. A significant proportion of gravity recoverable gold would be expected in any future processing.     </li> </ul>
Environmen-tal 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.	<ul> <li>The assumed operations will have typical waste dumps as seen in many sites across Western Australia. These include dewatering and tailings disposal facilities.</li> <li>No assumed operation in the future will have an unusual impact on the environment.</li> </ul>
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>	No data relating to bulk densities were available and so these values have been assumed. An SG of 2.2t/m2 was assumed for all material. This reflects the semi oxidised nature of most of the material.
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> </ul>	<ul> <li>The classification of all resources as Inferred reflects various unknowns of the data. Despite this there is sufficient continuity of the mineralisation across all resources.</li> <li>As currently understood these estimates give a fair reflection of the resources.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	As currently understood these estimates give a fair reflection of the resources.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>The resources have received a number of peer reviews. No key issues were raised.</li> </ul>
Discussion of relative accuracy/ confidence	<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 tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>The classification of the resources as Inferred reflects the presently understood confidence in the continuity of dimensions and grade of the resources.</li> <li>Various features require additional drilling. For example the coarse gold at Mt Stirling Well needs additional sampling. In all cases the resources remain open, particularly down dip.</li> <li>A more rigorous statistical understanding of the mineralisation in the resources will be made following more detailed drilling.</li> <li>The resources stated in this report relate to local estimates. Further drilling is warranted before any economic evaluation is made.</li> <li>Details of assumptions used are stated in the report.</li> </ul>



# Mt Keith Project

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
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>All data and results referred to in this report are historic, and date from the late 1980s to the present day. This data has been judged to be reliable following independent t research, including discussions with previous operators and explorers in person.</li> <li>Samples were collected via Rotary Air Blast (RAB) and Reverse Circulation (RC) drill chips.</li> <li>All drilling yielded samples on a metre basis. RAB drilling samples were commonly composited into intervals of 4 or 5m, with selected individual or 2m resamples collected. Reverse Circulation (RC) drilling is utilised to obtain 1 m samples which are riffle split, from which approx. 2-3 kg is pulverised to produce a 50 g charge for fire assay.</li> <li>Sample preparation method is total material dried and pulverized to nominally 85% passing 75 µm particle size. Gold analysis method is generally by 50g Fire Assay, with Atomic Absorption Spectrometry (AAS) finish (DL 0.01 – UL 50 ppm Au). Samples exceeding the upper limit of the method were automatically re-assayed utilizing a high grade gravimetric method.</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>RAB holes were typically 100mm in diameter, RC drilling usually 155mm in diameter. RC drilling was via a face sampling hammer.</li> </ul>
Drill sample recovery	<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</li> </ul>	<ul> <li>Recoveries were logged onto paper logs during drilling. Recoveries were visually assessed.</li> <li>Sample recoveries were maximised in RAB and RC drilling via collecting the samples in a cyclone prior to sub sampling. RAB drillholes were stopped if significant water flows were encountered.</li> </ul>
	whether sample bias may have occurred due to preferential loss/gain of	<ul> <li>No relationship appears from the data between sample recovery and grade of</li> </ul>



Criteria	JORC Code explanation	Commentary
	fine/coarse material.	the samples.
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> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All drillholes were geologically logged. This logging appears to be of high quality and suitable for use in further studies.</li> <li>Logging is qualitative in nature.</li> <li>All samples / intersections are logged. 100% of relevant length intersections are logged.</li> </ul>
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, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <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 representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Non-core RC drill chip sample material is riffle split, where sample is dry. In case of wet sample a representative 'grab' sample method is utilized.</li> <li>The sample preparation technique is total material dried and pulverized to nominally 85% passing 75 µm particle size, from which a 50g charge was representatively riffle split off, for assay.</li> <li>Standard check (known value) sample were not used in all cases. Where used the known values correspond closely with the expected values. A duplicate (same sample duplicated) were commonly inserted for every 20 or 30 samples taken.</li> <li>RC samples were submitted to commercial laboratories weighing appxroximately 2-3kg. These are considered appropriate for this material.</li> <li>The material is generally fine grained and so the samples submitted would be appropriate.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and 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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>Various independent laboratories have assayed samples from the projects over the years. In general they were internationally accredited for QAQC in mineral analysis.</li> <li>No geophysical tools have been used to date.</li> <li>The laboratories inserted blank and check samples for each batch of samples analysed and reports these accordingly with all results.</li> </ul>
Verification of sampling and assaying	<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 procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Selected significant intersections were resampled from original remnant sample material and analysed again.</li> <li>No twinned holes have been used to date.</li> <li>Documentation of primary data is field log sheets (hand written). Primary data is entered into application specific data base. The data base is subjected to data verification program, erroneous data is corrected. Data storage is retention of physical log sheet, two electronic backup storage</li> </ul>



Criteria	JORC Code explanation	Commentary
		devices and primary electronic database.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole 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> <li>Survey control used is by hand held GPS. No down hole surveys were completed to date. As the areas contain drillholes to no more than 100m significant deviations are not expected.</li> <li>Grid systems are various local grid converted to MGA coordinates.</li> <li>Topographic control is accurate to +/- 0.5 m.</li> </ul>
Data spacing and distribution	<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>	<ul> <li>The drill spacing is variable but generally no greater than 200m by 40m, with some areas infilled to 40m by 40m and 40m by 20m.</li> <li>The infilled areas have drilling density sufficient for JORC Inferred category. Further infill will be required for other categories.</li> <li>Apart from the reconnaissance RAB drilling, no sample compositing has been used.</li> </ul>
Orientation of data in relation to geological structure	<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>	<ul> <li>Apart from some vertical reconnaissance RAB drilling, the orientation of the drilling is approximately at right angles to the known mineralisation and so gives a fair representation of the mineralisation intersected.</li> <li>No sampling bias is believed to occur due to the orientation of the drilling.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples were delivered to the laboratory in batches at regular intervals.</li> <li>These are temporarily stored in a secure facility after drilling and before delivery</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The company engages independent consultants who regularly audit the data for inconsistencies and other issues. None have been reported to date.

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreem 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>	section of this report.  Details concerning tenements are described elsewhere in this report.



Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>All work relating to previous exploration contained within this report was completed by other parties. Details are included in the references.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	Details of the geology are found elsewhere in this report.
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> </ul> </li> </ul>	<ul> <li>Details of the drilling, etc are found within the various tables and diagrams elsewhere in this report.</li> <li>No material information, results or data have been excluded.</li> </ul>
	<ul> <li>down hole length and interception depth</li> <li>hole length.</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 material information has been excluded.
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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>	<ul> <li>Weighted averages were calculated by a simple weighting of from and to distances down each hole. Most samples are 1 metre samples. No top cuts were applied. Lower cut-offs used were – Mt Keith 1g/t Au.</li> <li>The drilling results table is shown elsewhere in this report. This shows the details of higher grade portions of the intersections.</li> </ul> No metal equivalent used
Relationship between mineralisation widths and intercept lengths	<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 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 (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>Details of geology, and selected cross sections are given elsewhere in this report</li> <li>The mineralisation is steeply dipping and so drill widths will be exaggerated. The diagrams and tables elsewhere in this report indicate the nature of the geometry of the mineralisation and drilling.</li> <li>Drilling results tabulated elsewhere in this report show drill widths not true widths.</li> </ul>
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should	<ul> <li>Details of geology, and selected cross sections are given elsewhere in this report.</li> </ul>



Criteria	JORC Code explanation	Commentary
	include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
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>	Details of the results, drilling, etc are reported elsewhere in this report.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>Details of geology, and selected cross sections are given elsewhere in this report.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg 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>	<ul> <li>Proposed work included drilling of selected twin holes followed by infill and step out RC drilling across all resources. The aim of such work is to increase confidence in the data and also to test for extensions to the known resources. Budgets are being prepared for this work at present.</li> <li>In addition a significant number of additional prospects are known to exist within the projects as defined by previous RAB and RC drilling intersections. These will form the second phase of exploration.</li> <li>Various maps and diagrams are presented elsewhere in this report to highlight possible extensions and new targets.</li> </ul>

## Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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>	<ul> <li>The database was checked against the hard copy originals for validity.</li> <li>Data validation checked consistency of features such as hole depth, consistent down hole surveys, duplicate assays, etc.</li> </ul>
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>	The competent person made site visits to all projects during the course of the last year.
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</li> </ul>	<ul> <li>The geology of the various resources is reasonably well documented and understood. Most are in areas of outcrop and so direct observation of dips, strikes, widths, etc have been made.</li> <li>3D models of the geology were commonly used as a guide for the interpretation of the mineralization.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>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>	<ul> <li>Continuity is assumed to be from hole to hole. As the maximum spacing of holes is 40m in the resources this appears to be a reasonable assumption. At all times the geology guided the continuity. No faults or other dislocations that may influence the geological continuity are known within the resources.</li> </ul>
Dimensions	<ul> <li>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.</li> </ul>	<ul> <li>The widths of the mineralisation within the resources are fairly uniform. The strike and dip extents of the mineralisation in the various resources is determined solely by drilling.</li> </ul>
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> <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>	<ul> <li>The resources were estimated using Micromine software. The mineralization was wireframed at the cut off grades stated above. Where high grade domains were noted these were subset from the overall wireframes.</li> <li>Where historic workings are also mapped these were also wireframed and deducted from the resource. These estimates were validated against historic production records where known.</li> <li>Geological models were used to constrain the mineralization models. The method used is considered to be suitable for the estimation of Inferred Resources. More complex methods may be appropriate for resources of higher category.</li> <li>There is modest previous mining activity across most of the resources. These provide evidence of width, dip, strikes, etc.</li> <li>Top cuts were not applied, however their influence on the wireframes was reduced by domaining high grade zones separately.</li> <li>No data was available for reconciliation. The model was compared to the drill data directly on section using the geological features as a guide. Minor adjustments were made following this.</li> <li>The geology was interpreted onto drill sections and wireframed to constrain the mineralisation.</li> <li>Low grade cut offs were used to define the outline of the mineralisation. Top cuts were not applied due to a lack of statistical data but were instead constrained by wireframes as to not effect the lower grade haloes.</li> <li>The interpretations and wireframes were checked manually against the interpreted cross sections for inconsistencies.</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The estimates are made on a dry basis as little information exists reliably outlining the moisture contents.
Cut-off	The basis of the adopted cut-off grade(s) or quality parameters applied.	The lower cut off were arbitrarily assigned after a visual assessment of the



Criteria	JORC Code explanation	Commentary
parameters		mineralization on cross sections. No upper cuts were applied, but their potential influence was reduced by separately domaining any high grade areas.
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining 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.</li> </ul>	<ul> <li>All resources are assumed to be open pittable. This is due to the oxide nature of the upper parts of the resources and the relatively shallow nature of the drilling to date. No mining studies have been made to date for any resource.</li> </ul>
Metallurgical factors or assumptions	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.	<ul> <li>All mineralisation is assumed to be free milling on the basis of historic data.         Most other resource contain some visible gold either in panned drill cuttings or directly observed in historic workings. A proportion of gravity recoverable gold would be expected in any future processing.     </li> </ul>
Environmental factors or assumptions	<ul> <li>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.</li> </ul>	<ul> <li>The assumed operations will have typical waste dumps as seen in many sites across Western Australia. These include dewatering and tailings disposal facilities.</li> <li>No assumed operation in the future will have an unusual impact on the environment.</li> </ul>
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>	<ul> <li>No bulk density data exists at Mt Keith, and so bulk densities were assumed based on experience in other similar deposits in WA. An SG of 2.2t/m2 was assumed for all material. This reflects the semi oxidised nature of most of the material.</li> <li>All bulk density data at Mt Keith were assumed from experience elsewhere in the region.</li> </ul> An assumed SG of 2.2 has been assumed for all material



Criteria	JORC Code explanation	Commentary
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>	<ul> <li>The classification of all resources as Inferred reflects various unknowns of the data. Despite this there is sufficient continuity of the mineralisation across all resources.</li> <li>As currently understood these estimates give a fair reflection of the resources.</li> <li>The result is approporiate in the view of the competent person.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>The resources have received a number of peer reviews. No key issues were raised.</li> </ul>
Discussion of relative accuracy/ confidence	<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 tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>The classification of the resources as Inferred reflects the presently understood confidence in the continuity of dimensions and grade of the resources.</li> <li>Various features require additional drilling. In all cases the resources remain open, particularly down dip.</li> <li>A more rigorous statistical understanding of the mineralisation in the resources will be made following more detailed drilling.</li> <li>The resources stated in this report relate to local estimates. Further drilling is warranted before any economic evaluation is made.</li> <li>Details of assumptions used are stated in the report.</li> </ul>



# Malcolm Project

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
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>All data and results referred to in this report are historic, and date from the late 1980s to the present day. This data has been judged to be reliable following independent t research, including discussions with previous operators and explorers in person.</li> <li>Samples were collected via Rotary Air Blast (RAB) and Reverse Circulation (RC) drill chips. A minor number of diamond drillholes (DD) were drilled at Malcolm.</li> <li>All drilling yielded samples on a metre basis. RAB drilling samples were commonly composited into intervals of 4 or 5m, with selected individual or 2m resamples collected. Reverse Circulation (RC) drilling is utilised to obtain 1 m samples which are riffle split, from which approx. 2-3 kg is pulverised to produce a 50 g charge for fire assay. Diamond core is sawn in half before crushing, pulverising and assaying.</li> <li>Sample preparation method is total material dried and pulverized to nominally 85% passing 75 µm particle size. Gold analysis method is generally by 50g Fire Assay, with Atomic Absorption Spectrometry (AAS) finish (DL 0.01 – UL 50 ppm Au). Samples exceeding the upper limit of the method were automatically re-assayed utilizing a high grade gravimetric method.</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>RAB holes were typically 100mm in diameter, RC drilling usually 155mm in diameter; diamond drilling was either NQ (50mm) or HQ (63mm). Triple tube coring was used in oxide zones. Core was orientated where possible via spear to mark the bottom of the hole. RC drilling was via a face sampling hammer.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> </ul>	<ul> <li>Recoveries were logged onto paper logs during drilling. Recoveries were visually assessed.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <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>	<ul> <li>Sample recoveries were maximised in RAB and RC drilling via collecting the samples in a cyclone prior to sub sampling. Diamond drilling used drilling muds to reduce loss of core in oxide zones and careful monitoring of the pumping of drilling fluids. RAB drillholes were stopped if significant water flows were encountered.</li> <li>No relationship appears from the data between sample recovery and grade of the samples.</li> </ul>
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> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All drillholes were geologically logged, whilst the diamond holes at Malcolm also have geotechnical logs. This logging appears to be of high quality and suitable for use in further studies.</li> <li>Logging is qualitative in nature.</li> <li>All samples / intersections are logged. 100% of relevant length intersections are logged.</li> </ul>
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, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <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 representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Non-core RC drill chip sample material is riffle split, where sample is dry. In case of wet sample a representative 'grab' sample method is utilized.</li> <li>The sample preparation technique is total material dried and pulverized to nominally 85% passing 75 µm particle size, from which a 50g charge was representatively riffle split off, for assay.</li> <li>Standard check (known value) sample were not used in all cases. Where used the known values correspond closely with the expected values. A duplicate (same sample duplicated) were commonly inserted for every 20 or 30 samples taken.</li> <li>Routine standards and duplicates were used to check for accuracy and precision of the results.</li> <li>The grain size is generally fine and so the sample size is appropriate.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and 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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>Various independent laboratories have assayed samples from the project over the years. In general they were internationally accredited for QAQC in mineral analysis.</li> <li>No geophysical tools have been used to date.</li> <li>The laboratories inserted blank and check samples for each batch of samples analysed and reports these accordingly with all results.</li> </ul>
Verification of	The verification of significant intersections by either independent or	Selected significant intersections were resampled from original remnant



Criteria	JORC Code explanation	Commentary
sampling and assaying	<ul> <li>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> <li>sample material and analysed again.</li> <li>No twinned holes have been used to date.</li> <li>Documentation of primary data is field log sheets (hand written). Primary data is entered into application specific data base. The data base is subjected to data verification program, erroneous data is corrected. Data storage is retention of physical log sheet, two electronic backup storage devices and primary electronic database.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole 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> <li>Survey control used is hand held GPS. Down hole surveys were completed on most diamond drillholes at Malcolm. These surveys were via a single shot down hole tool. As the other drillholes were drilled to no more than 100m significant deviations are not expected.</li> <li>Grid systems are various local grid converted to MGA coordinates.</li> <li>Topographic control is accurate to +/- 0.5 m.</li> </ul>
Data spacing and distribution	<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>	<ul> <li>The drill spacing is variable but generally no greater than 200m by 40m, with some areas infilled to 40m by 40m and 20m by 20m.</li> <li>The infilled areas have drilling density sufficient for JORC Inferred category. Further infill will be required for other categories.</li> <li>Apart from the reconnaissance RAB drilling, no sample compositing has been used.</li> </ul>
Orientation of data in relation to geological structure	<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>	<ul> <li>Apart from some vertical reconnaissance RAB drilling, the orientation of the drilling is approximately at right angles to the known mineralisation and so gives a fair representation of the mineralisation intersected.</li> <li>No sampling bias is believed to occur due to the orientation of the drilling.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples were delivered to the laboratory in batches at regular intervals.</li> <li>These are temporarily stored in a secure facility after drilling and before delivery</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The company engages independent consultants who regularly audit the data for inconsistencies and other issues. None have been reported to date.



# Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

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 details relating to the tenements are located in the Tenement Status section of this report.  Tenement details are described elsewhere in this report.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>All work relating to previous exploration contained within this report was completed by other parties. Details are included in the references.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	Details of the geology are found elsewhere in this report.
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</li> </ul>	<ul> <li>Details of the drilling, etc are found within the various tables and diagrams elsewhere in this report.</li> <li>No material information, results or data have been excluded.</li> </ul> No material information has been excluded.
	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.	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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> </ul>	<ul> <li>Weighted averages were calculated by a simple weighting of from and to distances down each hole. Most samples are 1 metre samples. No top cuts were applied. Lower cot-offs used were – Malcolm 1g/t Au.</li> <li>The drilling results are shown tabulated elsewhere in this report.</li> </ul> No metal equivalents have been used
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	110 motal equivalente nave been used
Relationship	These relationships are particularly important in the reporting of Exploration	Details of geology, and selected cross sections are given elsewhere in this



Criteria	JORC Code explanation	Commentary
mineralisation widths and intercept lengths	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be 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 (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>The steep dipping nature of the mineralisation means that steeply inclined drillholes will show exaggerated widths. These are shown in the diagrams and tables elsewhere in this report.</li> <li>The drilling results shown elsewhere in this report are drill widths not true widths.</li> </ul>
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>	<ul> <li>Details of geology, and selected cross sections are given elsewhere in this report.</li> </ul>
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>	Details of the results, drilling, etc are reported elsewhere in this report.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>Details of geology, and selected cross sections are given elsewhere in this report.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg 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>	<ul> <li>Proposed work included drilling of selected twin holes followed by infill and step out RC drilling across all resources. The aim of such work is to increase confidence in the data and also to test for extensions to the known resources. Budgets are being prepared for this work at present.</li> <li>In addition a significant number of additional prospects are known to exist within the projects as defined by previous RAB and RC drilling intersections. These will form the second phase of exploration.</li> <li>Various maps and diagrams are presented elsewhere in this report to highlight possible extensions and new targets.</li> </ul>

# Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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> </ul>	<ul> <li>The database was checked against the hard copy originals for validity.</li> <li>Data validation checked consistency of features such as hole depth, consistent down hole surveys, duplicate assays, etc.</li> </ul>



Criteria	JORC Code explanation	Commentary
	Data validation procedures used.	
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>	The competent person made site visits to all projects during the course of the last year.
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>	<ul> <li>The geology of the various resources is reasonably well documented and understood. Most are in areas of outcrop and so direct observation of dips, strikes, widths, etc have been made.</li> <li>3D models of the geology were commonly used as a guide for the interpretation of the mineralization.</li> <li>Continuity is assumed to be from hole to hole. As the maximum spacing of holes is 40m in the resources this appears to be a reasonable assumption. At all times the geology guided the continuity. No faults or other dislocations that may influence the geological continuity are known within the resources.</li> </ul>
Dimensions	<ul> <li>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.</li> </ul>	The widths of the mineralisation within the resources are fairly uniform. The strike and dip extents of the mineralisation in the various resources is determined solely by drilling.
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> <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</li> </ul>	<ul> <li>The resources were estimated using Micromine software. The mineralization was wireframed at the cut off grades stated above. Where high grade domains were noted these were subset from the overall wireframes.</li> <li>Where historic workings are also mapped these were also wireframed and deducted from the resource. These estimates were validated against historic production records where known.</li> <li>Geological models were used to constrain the mineralization models. The method used is considered to be suitable for the estimation of Inferred Resources. More complex methods may be appropriate for resources of higher category.</li> <li>There is modest previous mining activity across most of the resources. These provide evidence of width, dip, strikes, etc.</li> <li>Top cuts were not applied, however their influence on the wireframes was reduced by domaining high grade zones separately.</li> <li>No data was available for reconciliation. The model was compared to the drill data directly on section using the geological features as a guide. Minor adjustments were made following this.</li> <li>Lower grade cut offs were used to define the edges of the wireframes,</li> </ul>



Criteria	JORC Code explanation	Commentary
	model data to drill hole data, and use of reconciliation data if available.	whilst the higher grades were not cut due to a lack of statistics. The higher grade areas were wireframed separately so as not to affect the surrounding lower grade haloes. the wireframes were checked manually agains the cross sectional interpretations for consistency. Minor changes were made following this process.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The estimates are made on a dry basis as little information exists reliably outlining the moisture contents.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>The lower cut off were arbitrarily assigned after a visual assessment of the mineralization on cross sections. No upper cuts were applied, but their potential influence was reduced by separately domaining any high grade areas.</li> </ul>
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining 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.	All resources are assumed to be open pitable. This is due to the oxide nature of the upper parts of the resources and the relatively shallow nature of the drilling to date. No mining studies have been made to date for any resource.
Metallurgical factors or assumptions	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.	<ul> <li>All mineralisation is assumed to be free milling on the basis of historic data.         Most other resource contain some visible gold either in panned drill cuttings         or directly observed in historic workings. A significant proportion of gravity         recoverable gold would be expected in any future processing.</li> </ul>
Environmen-tal factors or assumptions	<ul> <li>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</li> </ul>	<ul> <li>The assumed operations will have typical waste dumps as seen in many sites across Western Australia. These include dewatering and tailings disposal facilities.</li> <li>No assumed operation in the future will have an unusual impact on the environment.</li> </ul>



Criteria	JORC Code explanation	Commentary
Bulk density	<ul> <li>reported with an explanation of the environmental assumptions made.</li> <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>	No bulk density data were available. Bulk densities were assumed based on industry experience elsewhere in Western Australia. An SG of 2.2t/m2 was assumed for all material. This reflects the semi oxidised nature of most of the material.  An assumed SG of 2.2 has been assumed for all material based on experience elsewhere in this region.
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>	<ul> <li>The classification of all resources as Inferred reflects various unknowns of the data. Despite this there is sufficient continuity of the mineralisation across all resources.</li> <li>As currently understood these estimates give a fair reflection of the resources.</li> <li>The result is appropriate in the competent person's view.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>The resources have received a number of peer reviews. No key issues were raised.</li> </ul>
Discussion of relative accuracy/ confidence	<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 tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>The classification of the resources as Inferred reflects the presently understood confidence in the continuity of dimensions and grade of the resources.</li> <li>Various features require additional drilling. In all cases the resources remain open, particularly down dip.</li> <li>A more rigorous statistical understanding of the mineralisation in the resources will be made following more detailed drilling.</li> <li>The resources stated in this report relate to local estimates. Further drilling is warranted before any economic evaluation is made.</li> <li>Details of assumptions used are stated in the report.</li> </ul>