

ASX Announcement (ASX: OBM)

12 November 2019

Siberia Open Pit Ore Reserves Increase by 42% - Supplementary Release

Sand King & Missouri Open Pit Ore Reserves Increase to 210,000 oz

Highlights:

- Siberia Open Pit Mining Reserves increase by 42% to 210,000 oz Au
 - Missouri Reserve increased 41% to 120,000 ounces, up from 85,000 (December 2016)
 - Sand King Reserve increased 43% to 93,000 ounces, up from 65,000 (January 2017)
- Optimization and redesign based on current cost and commodity price inputs
- Resource to Reserve conversion rate increased to 43%, up from 30% (January 2017)

Further to Ora Banda Mining Limited's (ASX:OBM) ("Ora Banda", "Company") ASX release of 30 October 2019 announcing an increased open pit Ore Reserve of 210,000 oz Au (up from 150,000 oz Au) at its Siberia prospect in Western Australia, the Company provides the following additional information in accordance with ASX Listing Rule 5.9.1.

Ora Banda's Siberia prospect is located approximately 39 km southeast of the Company's 1.2 Mtpa processing plant at Davyhurst and 80 km northwest of Kalgoorlie, within the North Eastern Goldfields of Western Australia. The prospect incorporates both the Sand King and Missouri open pits (Figure 1, 2 & 5). Key physicals of the two open pits are provided in Table 2.

Entech Pty Ltd, an independent and internationally recognised mining consultancy, specialising in open pit gold mining in the Eastern Goldfields region, was engaged to undertake a re-optimisation and design review of Ora Banda's existing Sand King and Missouri Mineral Resources at Siberia.

The optimisation study undertaken by Entech incorporated a number of key commercial parameter updates:

- (i) Current capital and operating cost estimates specific to the project; and
- (ii) A base case gold price of A\$2,000 per ounce Au.

The optimisation and redesign resulted in a combined Open Pit Ore Reserve estimate for the Sand King and Missouri deposits of 2,800,000 t at a life of mine average grade of 2.3 g/t Au for 210,000 ounces Au (Table 1). Importantly, the Ore Reserve estimated grade remained consistent with the 2017 Ore Reserve estimate (*See ASX Announcement dated 14 February 2017*) of 2,000,000 t at 2.3 g/t Au for 150,000 ounces. This represents a 42% increase in the open pit Ore Reserve at Siberia and a 43% conversion of Measured and Indicated Mineral Resources to Ore Reserves (up from 30%).

Ora Banda Managing Director, David Quinlivan, said: "The delivery of this updated Reserve Statement is an essential step in the progression of the DFS. The increase in reserve is pleasing and augurs well for the integration of these open pits into the larger project scale mining proposition."



Table 1: Ore Reserve details by individual pit

PROJECT	PROVEN		PRO	BABLE	TOTAL MATERIAL		
	('000t)	(g/t Au)	('000t)	(g/t Au)	('000t)	(g/t Au)	('000oz.)
Missouri	-	-	1,700	2.1	1,700	2.1	120
Sand King	-	-	1,100	2.6	1,100	2.6	93
TOTAL	-	-	2,800	2.3	2,800	2.3	210

Notes:

- 1. The above table contains rounding adjustments and may not total exactly.
- 2. This Ore Reserve was estimated from practical mining envelopes and the application of modifying factors for mining dilution and ore loss.
- 3. Dilution was applied at zero grade and all Inferred Mineral Resource was considered as waste at zero grade.
- 4. An incremental economic cut-off grade of 0.72 g/t was applied to the diluted Mineral Resource.

Table 2: Key physicals of the Sand King and Missouri open pits

Key Characteristics	Units	Sand King	Missouri	Total
Waste Tonnes Moved	Million tonnes	15	14	29
Ore Tonnes Processed	Tonnes ('000)	1,100	1,700	2,800
Stripping Ratio	W:O	14:1	9:1	11:1
Mine Life	Months	22	20	29
Average Head Grade	(g/t)	2.6	2.1	2.3
Total Metal Production ¹	Oz ('000)	93	120	210
C1 Cash Costs/oz ²	A\$/oz Au			1,433

Notes:

1. C1 Cash Costs/oz presented have been calculated utilising the combined total cost of both the Missouri and Sand King open pits over the operating life of the Siberia project.

Work has now commenced on updating all the necessary statutory approvals for the Siberia Prospect, which were initially granted in 2017.

Mine evaluation work, investigating the underground mining potential of these two deposits, has also commenced.



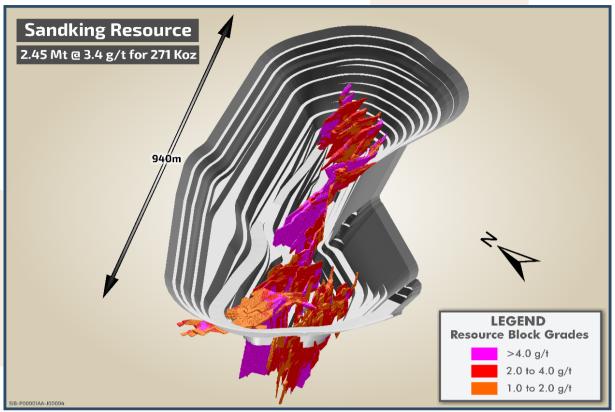


Figure 1 – Isometric view of Sand King showing modelled mineralisation

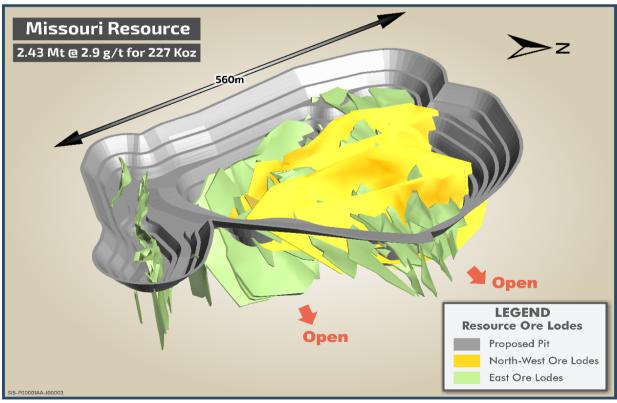


Figure 2 – Isometric view of Missouri showing modelled mineralisation



Ore Reserve Estimation Summary Information as required under Australian Securities Exchange (ASX) Listing Rules 5.9.1

1 Mineral Resources

The Mineral Resource Statement for Siberia is reported according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') 2012 edition, and is summarised in Table 3 with further details provided in Appendix 1.

Table 3: Siberia prospect Mineral Resource estimate

PROJECT	PROJECT MEASURED		INDIC	INDICATED		INFERRED		TOTAL MATERIAL	
	('000t)	(g/t Au)	('000t)	(g/t Au)	('000t)	(g/t Au)	('000t)	(g/t Au)	('000oz.)
SAND KING	-	-	1,773	3.3	680	3.7	2,453	3.4	271
MISSOURI	-	-	2,022	3.0	409	2.6	2,431	2.9	227
Siberia Total	-	-	3,795	3.1	1,089	3.2	4,884	3.1	498

Notes

- 1. The Missouri and Sand King Mineral Resource was prepared and classified in accordance with all relevant aspects of the JORC code 2012, and initially released to the market on 15 December 2016 (Missouri) and 3 January 2017 (Sand King).
- 2. The above table contains rounding adjustments and may not total exactly.

Sandking and Missouri resource estimation used the Ordinary kriging technique. Mineralisation outlines were defined on drill section and subsequently wireframed to produce mineralisation solids. Orientation of mineralised lodes at both deposits was based on structural observation of drill core and pit mapping. In both cases 1m composite samples were coded to the mineralised domains and used as inputs to estimation.

High grade cut-offs were applied to 1m composite data to reduce the disproportionate effect of high grade outliers. The parent block dimensions and orientation used were chosen based on drill spacing (approx. 50% of data spacing) and ore geometry. An orientated ellipsoid search was used to select data and was based on parameters derived from the variography. Estimation was completed in successive runs each with less restrictive search, and minimum sample parameters. Only Au was interpolated into the block model, no estimation of other metals or deleterious elements was carried out. The following points were used to define the classification of the deposits:

- Geological interpretation including lithology, structure, mineralisation and weathering were the best possible with the available information.
- Drill hole spacing and sample density. Generally good drill support where spacing was 20m x 20m.
- Estimation quality parameters such as kriging variance and slope of regression.

At Missouri the indicated resource was defined where good data support exists (drill hole spacing averaging 20m x 20m) and estimation quality is reasonable defined by a slope of regression typically greater than 0.65. At Sandking the indicated resource was defined where drill hole spacing averages 20m x 20m and estimation quality is reasonable defined by a kriging variance typically lower than 0.3. All other areas of both Missouri and Sandking models were classified as inferred. No material in either Sandking or Missouri attained a measured classification.

A summary of material information required under Australian Securities Exchange (ASX) Listing Rules 5.8 and JORC Code (2012), inclusive of 'Table 1' of the Code, for all deposits are presented in Appendix 2.



All Indicated Mineral Resource within the pit envelopes was included in the Probable Ore Reserve estimate, where the resource exceeded the economic cut-off grade, following the application of mining dilution and ore loss modifying factors. There is no Measured classification within the Mineral Resource evaluated. Any Inferred Mineral Resource contained within the mine plan was treated as waste with zero grade.

For further information refer ASX announcements dated 15 December 2016 (Missouri) and 3 January 2017 (Sand King).

2 Ore Reserve Estimate

The Ore Reserves statement is reported according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') 2012 edition

The Siberia prospect Ore Reserve estimate by individual pit is set out in the Table 4 below.

Table 4: Siberia prospect Ore Reserve estimate by pit.

PROJECT	PRO	PROVEN		BABLE	TOTAL MATERIAL		
1	('000t)	(g/t Au)	('000t)	(g/t Au)	('000t)	(g/t Au)	('000oz.)
Missouri	-	-	1,700	2.1	1,700	2.1	120
Sand King	-	-	1,100	2.6	1,100	2.6	93
TOTAL	-	-	2,800	2.3	2,800	2.3	210

Notes:

- 1. The above table contains rounding adjustments and may not total exactly.
- 2. This Ore Reserve was estimated from practical mining envelopes and the application of modifying factors for mining dilution and ore loss.
- 3. Dilution was applied at zero grade and all Inferred Mineral Resource was considered as waste at zero grade.
- 4. An incremental economic cut-off grade of 0.72 g/t was applied to the diluted Mineral Resource.

The Ore Reserve estimate was based on financials and modifying factors determined as part of the Entech mining study undertaken on the prospect. The study included pit optimisations and subsequent pit designs based on geotechnical parameters and practical mining considerations.

The following key assumptions were applied to this Ore Reserve estimate:

- Gold price of A\$2,000 per ounce;
- Current mining and processing operating cost estimates (Table 6);
- Mining dilution was included by reblocking the undiluted Mineral Resource model to a practical Selective Mining Unit (SMU) (Section 3 below);
- Geotechnical recommendations as advised by external consultants for the original 2017 Reserve Estimate (Section 4 below); and
- Metallurgical recoveries based on historical metallurgical plant performance and baseline test work (Section 5 below).

3 Siberia Open Pit Mining

The Siberia deposits will be mined using open pit mining methods with conventional mining equipment. The Ore Reserve is based on the final pit design. Ore and waste will be mined using a single mining fleet with ore mining directly supervised by OBM mining personnel. Surface mining contractors will provide a conventional mechanised fleet that includes 120 tonne class excavators and 90 tonne dump trucks for load and haul. Where required, drill and blast will be carried out using track mounted diesel hydraulic blasthole drills and conventional explosives typically used throughout the industry.



Mining modifying factors for open pits were determined by relocking the Mineral Resource model using a selective mining unit (SMU). The SMU considered a minimum mining width of 2.0 m, strike length of 2.5 m and vertical extent of 2.5 m. The reblocking technique accounts for ore loss and dilution at the SMU scale, the resultant model was used as a diluted model for optimisation and reporting of Ore Reserves from practical mining envelopes. The Ore Reserve was determined using an incremental cut-off grade of 0.72 g/t applied to the SMU shapes within the practical pits envelopes. The addition of dilution from the reblocking process results in a loss of Mineral Resource tonnes due to the number of mineralised blocks being diluted to below the incremental cut-off grade.

The open pits were scheduled using typical mining productivities consistent with the West Australian mining industry. Mining operating costs were based on contractor supplied cost estimates for drilling, blasting, loading and haulage, site establishment and demobilisation specific to the prospect.

4 Geotechnical

Independent geotechnical consultants provided recommendations for each of the deposits to a pre-feasibility (PFS) level of detail.

Geotechnical modelling was completed by an external consultant (2017) based on field logging and laboratory testing of selected diamond drill core samples. The open pit designs were based on the recommended geotechnical design parameters and assume dry slopes (see Figures 3 & 4 below). Expected water ingress rates are low, in the order of 3 lt/sec, based on historical mining records. The orientation of the Missouri deposit allows for an overall design batter angle of 48°. The Sand King pit is designed to have a slightly shallower overall batter angle of 45° to accommodate for a deeper base of complete oxidation (BOCO). The average approximate depth of the BOCO at Sandking is 40 metres. The average approximate depth of the BOCO at Missouri is 15 metres.

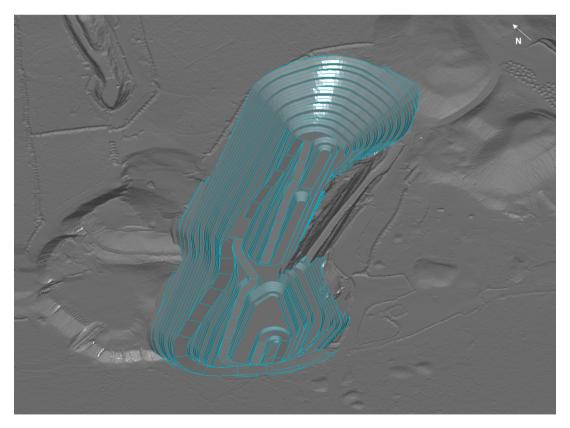


Figure 3 - Sandking Open Pit Mine Design



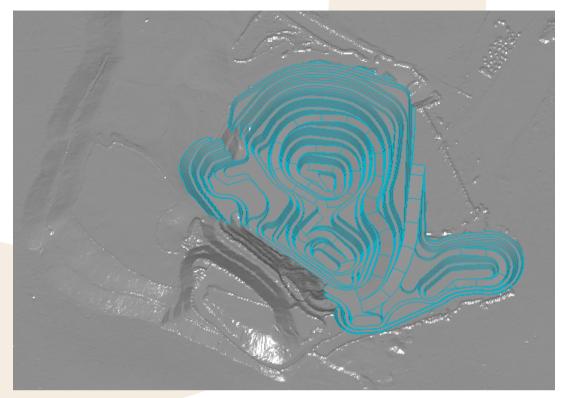


Figure 4 - Missouri Open Pit Mine Design

5 Processing

Processing assumptions are based on treating the ore through the 1.2Mtpa Davyhurst processing plant. Metallurgical recoveries were based on historical production data for the Davyhurst processing plant and baseline test work conducted on core samples collected from each deposit.

Metallurgical recoveries applied to the Siberia mining are as follows:

- o Oxide 93.0%
- o Transitional 93.0%
- Fresh 92.0%

The Davyhurst plant will use conventional Carbon-in-Leach (CIL) and gravity concentration methods to recover gold from the ore. The process flowsheet for the Davyhurst Plant is briefly described below.

Crushing and Screening

The crushing circuit consists of a three (3) stage crushing configuration with a triple deck inclined vibrating screen producing three product streams, oversize which is directed back to the Secondary Crusher, mid stream back to Tertiary Crusher and undersize to the Fine Ore Bin (FOB). It is designed to operate 18 hours per day at 180 tph.

Grinding, Concentration and Classification

The grinding, concentration and classification circuit operates 24 hours per day, 7 days per week. The circuit consists of two stages of ball milling, with two Knelson concentrators and a classifying hydrocyclone cluster.



Grinding

The primary mill is equipped with a 1,300 kW fixed speed motor processing a nominal 150 tph. Cyclone underflow is split between the gravity screen or to either the primary or secondary mill via a splitter box. When following the usual path (to the secondary mill) it is combined with process water and passes through the 1,120 kW secondary ball mill. The nominal grind targets 80% passing 106 µm.

Concentration – Gravity Circuit

Secondary cyclone underflow is split, with the majority of the product reporting back to the secondary mill and the remainder reporting to the gravity circuit.

Leach & Adsorption

The leaching and adsorption circuit treats the material from the cyclone overflow which feeds a trash screen to remove any waste material, with the trash screen underflow reporting to the first of six leach tanks.

Gold is leached into solution via the cyanidation process and adsorbed onto the activated carbon which is pumped counter current to the slurry. Loaded carbon is recovered from adsorption tank 1, where the gold is stripped from the carbon in the elution circuit and the barren carbon is returned to the adsorption tank 6.

Tailings Disposal

Slurry exiting the final adsorption tank passes over a 1.8 m wide by 4.8 m long horizontal vibrating carbon safety screen fitted with 1.2 mm aperture panels. Carbon recovered from the screen is dropped to a bunded area.

Undersize reports to the tailings thickener feed hopper where one of two (duty/standby) variable speed centrifugal pumps transfers the slurry into the tailings thickener. Slurry entering the 15 m diameter high rate thickener is combined with diluted flocculant and thickened to approximately 50% solids w/w and pumped to the TSF via one of two (duty/standby) variable speed underflow pumps.

TSF Design and Reference Documents

The TSF has been designed and constructed to the standards set by the DMP. A Tailing Management Plan is in place.

The flowsheet also details other features of the circuit:

- Elution and Gold Recovery
- Carbon Regeneration
- Reagent Storage, Mixing, Distribution and Usage
- Radiation Hazards and Management

6 Infrastructure

The main infrastructure for Davyhurst is listed below in Table 5.

Table 5 Main infrastructure summary details

Infrastructure	Capacity/Size	Comments
Crusher	180 tonnes per hour	
Processing plant	1,200,000 tpa	



Infrastructure	Capacity/Size	Comments
Raw Water, Process and	Two dams approximately 30m x 30m	
Potable water	Generated on site via a Reverse Osmosis (RO) Plant	Two low yielding good quality water bores feed an on site RO Plant
Workshops & Warehouse	1x Electrical, 1 x Mechanical, 1 x Warehouse	Mining contractor workshops will be located at the Siberia prospect.
Laydown and office areas	Fully equipped and functioning office facility for administration and technical staff	
Power	5 MW power station + mains power	Power station - third party provider, Mains power feeds borefield and camp
Fuel farm	500,000 litres power station 300,000 litres mining contractor	Leased Leased
Vehicle Wash Down Pad	Heavy vehicle + light vehicle	
ROM pad	5 ha	Approx 15m above ground surface.
Tailings storage	Paddock style TSF	
Core Shed	Extensive drill core processing facility	
Borefield – Process Water	~6 bores	Powered by overhead mains power.
Callion Airstrip	1,200m long	

7 Revenue Assumptions

Revenue was based on a gold price assumption of A\$2,000/oz. The standard Western Australian government royalty of 2.5% was applied in the financial model.

8 Capital and Operating Costs

All material was subjected to an economic evaluation. A detailed financial model to a Pre-Feasibility Study (PFS) level of accuracy was generated for the economic evaluation. Key costs are summarised in Table 6 below.



Table 6: Capital and operating costs considered in the Ore Reserve estimate.

Capital	Units	Total
Plant Refurbishment	A\$m	8.5
Pre-production	A\$m	10.8
Sustaining	A\$m	0.9
Operating	Units	Total
Mining	A\$/t ore	54.2
Processing	A\$/t ore	30.1
Surface Haulage	A\$/t ore	5.5
Mine Site G&A	A\$/t ore	9.0
Royalty	A\$/t ore	3.5
Total	A\$/t ore	102.3

Plant refurbishment cost were estimated following a detailed review of the Davyhurst process plant and associated infrastructure by GR Engineering Services Ltd ("GRES") (refer ASX announcement, 2 August 2019).

The remaining costs were generated from first principals cost modelling and supported by external contractor pricing were applicable.

9 Approvals

All regulatory approvals are currently being updated and are yet to be granted for the proposed operation; however, licencing processes have commenced and there are no known issues that will impact the approval of the mine plan used in this estimate.

Investor & Media Queries:

David Quinlivan Managing Director +61 418 948 944



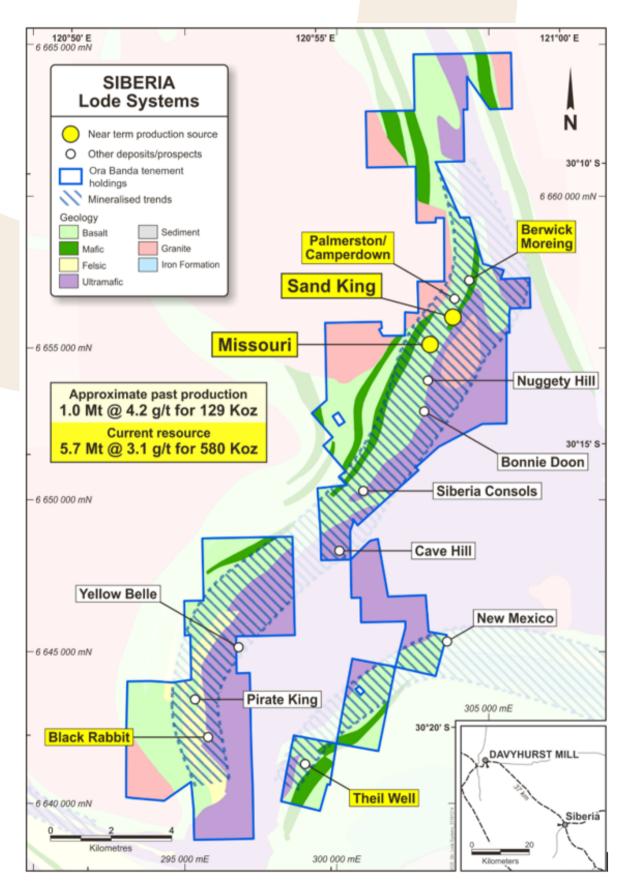


Figure 5 – Siberia Area Geology



Competent Persons Statement

The information in this announcement that relates to exploration results, and the Sand King and Missouri Mineral Resources is based on information compiled under the supervision of Mr Andrew Czerw, an employee of Ora Banda Mining Limited, who is Member of the Australian Institute of Mining and Metallurgy. Mr Czerw has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Czerw consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Mineral Resources is based on information compiled under the supervision of Mr Andrew Czerw, an employee of Ora Banda Mining Limited, who is Member of the Australian Institute of Mining and Metallurgy. Mr Czerw has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 and 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements dated 15 December 2016 and 3 January 2017 and to ASX release "Prospectus" dated 30 April 2019. The Company confirms that the form and context in which the Competent Person's findings are presented have not been modified from the original announcement and, in the case of estimates of Mineral Resources, all material assumptions and technical parameters underpinning the estimates in the initial announcement continue to apply and have not materially changed. This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

Unless otherwise stated, all Mineral Resources and Ore Reserves (with the exception of Missouri and Sand King) are reported in accordance with JORC 2004. The relevant information has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

The information in this report that relates to Ore Reserves is based on information compiled by Mr Craig Mann, who is an independent mining engineering consultant and a full-time employee of Entech Pty Ltd, and has sufficient relevant experience to advise Ora Banda Mining Limited on matters relating to mine design, mine scheduling, mining methodology and mining costs. Mr Mann is satisfied that the information provided in this statement has been determined to a PFS level of accuracy, based on the data provided by Ora Banda Mining Limited. Mr Mann consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Forward-looking Statements

This announcement contains forward-looking statements which may be identified by words such as "believes", "estimates", "expects', "intends", "may", "will", "would", "could", or "should" and other similar words that involve risks and uncertainties. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this announcement, are expected to take place.

Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, the Directors and management of the Company. These and other factors could cause actual results to differ materially from those expressed in any forward-looking statements.

The Company has no intention to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this announcement, except where required by law.

The Company cannot and does not give assurances that the results, performance or achievements expressed or implied in the forward-looking statements contained in this announcement will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements.



Appendix 1 - Resource Table

PROJECT	MEAS	SURED	INDIC	CATED	INFE	RRED	то	TAL MATER	IAL
T NOJECT	('000t)	(g/t Au)	('000oz.)						
GOLDEN EAGLE	-	-	345	2.5	311	2.6	656	2.5	54
LIGHTS OF ISRAEL	-	-	74	4.3	180	4.2	254	4.2	35
MAKAI SHOOT	-	-	1,985	2.0	153	1.7	2,138	2.0	136
WAIHI	-	-	805	2.4	109	2.4	914	2.4	71
Central Davyhurst Subtotal	-	-	3,200	2.2	800	2.6	3,962	2.3	296
LADY GLADYS	-	-	1,858	1.9	190	2.4	2,048	1.9	128
RIVERINA AREA	-	-	941	2.4	1,644	2.5	2,585	2.5	205
FOREHAND	-	-	386	1.7	436	1.9	822	1.8	48
SILVER TONGUE	-	-	155	2.7	19	1.3	174	2.5	14
SUNRAYSIA	-	-	175	2.1	318	2.0	493	2.0	32
Riverina-Mulline Subtotal	-	-	3,515	2.1	2,607	2.3	6,122	2.2	427
SAND KING	-	-	1,773	3.3	680	3.7	2,453	3.4	271
MISSOURI	-	-	2,022	3.0	409	2.6	2,431	2.9	227
PALMERSTON / CAMPERDOWN	-	-	118	2.3	174	2.4	292	2.4	22
BEWICK MOREING	-	-	-	-	50	2.3	50	2.3	4
BLACK RABBIT	-	-	-	-	434	3.5	434	3.5	49
THIEL WELL	-	-	-	-	18	6.0	18	6.0	3
Siberia Subtotal	-	-	3,913	3.1	1,765	3.2	5,678	3.1	576
CALLION	-	-	86	2.8	83	2.3	169	2.6	14
Callion Subtotal	-	-	86	2.8	83	2.3	169	2.6	14
FEDERAL FLAG	32	2.0	112	1.8	238	2.5	382	2.3	28
SALMON GUMS	-	-	199	2.8	108	2.9	307	2.8	28
WALHALLA	-	-	448	1.8	216	1.4	664	1.7	36
WALHALLA NORTH	-	-	94	2.4	13	3.0	107	2.5	9
MT BANJO	-	-	109	2.3	126	1.4	235	1.8	14
MACEDON	-	-	-	-	186	1.8	186	1.8	11
Walhalla Subtotal	32	2.0	962	2.1	887	2.0	1,881	2.1	126
IGUANA	-	-	690	2.1	2,032	2.0	2,722	2.0	177
LIZARD	106	4.0	75	3.7	13	2.8	194	3.8	24
Lady Ida Subtotal	106	4.0	765	2.3	2,045	2.0	2,916	2.1	201
Davyhurst Total	138	3.5	12,441	2.5	8,187	2.4	20,728	2.5	1,640
BALDOCK	-	-	136	18.6	0	0.0	136	18.6	81
METEOR	-	-	-	-	143	9.3	143	9.3	43
WHINNEN	-	-	-	-	39	13.3	39	13.3	17
Mount Ida Total	-	-	136	18.6	182	10.2	318	13.8	141
Combined Total	138	3.5	12,577	2.7	8,369	2.6	21,046	2.6	1,780

- 1. All Resources listed above with the exception of the Missouri and Sand King Resources were prepared and first disclosed under the JORC Code 2004 (refer to ASX release "Prospectus" dated 30 April 2019). It has not been updated since to comply with JORC Code 2012 on the basis that the information has not materially changed since it was last reported.
- 2. The Missouri and Sand King Mineral Resources has been updated and complies with all relevant aspects of the JORC code 2012, and initially released to the market on 15 December 2016 (Missouri) and 3 January 2017 (Sand King).
- 3. The above table may contain rounding adjustments.

Appendix 2 - JORC CODE, 2012 EDITION - TABLE 1 REPORT TEMPLATE

Section 1 Sampling Techniques and Data

Information for historical (Pre Ora Banda Mining Limited from 1996 and 2001) drilling and sampling has been extensively viewed and validated where possible. Information pertaining to historical QAQC procedures and data is incomplete but of a sufficient quality and detail to allow drilling and assay data to be used for resource estimations. Further, Ora Banda Mining Limited has undertaken extensive infill and confirmation drilling which confirm historical drill results. Sections 1 and 2 describe the work undertaken by Ora Banda Mining Limited and only refer to historical information where appropriate and/or available.

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information. 	 Goldfields Group; Auger holes were drilled to a maximum depth of 1.5m. RC samples were routinely collected at 1m intervals. Diamond drill core samples were taken at geological boundaries and sawn in half. Samples pulverised at laboratory. Monarch Gold Mining Company Ltd; RAB samples were collected at 2m and 4m composites via a scoop method at 1m intervals. RC samples were collected at 1m, 2m to 5m intervals. 1m samples were riffle split. WMC; In early drilling by WMC, samples were "panned' for visible gold. Percussion samples were collected at 1m intervals, split in the field. Diamond core samples were cut in half or quartered. Gilt Edged Mining NL; All RAB and RC holes were collected through a cyclone and sampled at 1m intervals, pipe or spear sampled, composited over 5m intervals. The composite samples weighing about 3kg were despatched for analysis. 5m composites with assays greater than 0.2 g/t Au were resampled by riffle-splitting the whole of each 1m sample down to about 3kg prior to being despatched for analysis. Siberia Mining Corporation Ltd; RAB samples were collected at 1m intervals from the drill hole collar using a plastic bucket and laid on the ground. A scoop sample was taken from each sample to form a 5m composite. RC samples were collected at 1m intervals, and passed through a cyclone and split using a two tiered, 75:25 riffle splitter. The split sample (approximately 2-3kg) was stored in a drawn calico bag, which was then placed next to the split sample reject (approximately 10-15kg), which was contained in UV resistant PVC bags. A representative scoop sample was then taken from each split sample reject bags to form a 4m composite sample. Diamond half core sampled at 1m intervals and cone split. Half sawn core samples crushed, pulverised and 40g or 50g sample taken for fire assay at Intertek.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	 Goldfields Group; Auger holes were using an auger rig on the back of a Toyota Landcruiser from Snap Drilling. RC holes were drilled by Western Diamond Drillers using a Schramm Rig. Diamond holes were drilled by Mundy Drilling services using a KL1200 rig. Diamond holes were oriented. Monarch Gold Mining Company Ltd; RC holes were drilled by Kennedy Drilling using a 4 inch blade. WMC; RC percussion holes were drilled using a Schram Rig. RC holes were drilled using blades and hammer. The RC drilling diameter is unknown. Diamond drill holes for NQ core were drilled and reduced to BQ core at depth if necessary. Some diamond holes commenced with a percussion pre-collar. Diamond core generally not oriented. Gilt Edged Mining NL; RC holes were drilled by either Sing Drilling or McKay Drilling. Both Kalgoorlie companies used a booster and auxiliary compressor. The RC drilling diameter is unknown.

Criteria	JORC Code explanation	Commentary
		 Siberia Mining Corporation Ltd; RAB holes were drilled by ProDrill Pty Ltd of Kalgoorlie using an open hole RAB drill rig. All holes were drilled dry. RC holes were drilled by Premium Drilling Pty Ltd of Kalgoorlie using a 350/750 Schram RC drill rig and a 5.25" face sampling hammer. An auxiliary booster was used on holes deeper than 75m. EGL; RC drilling using 5.25 inch face sampling hammer. PQ, HQ and NQ diamond core. PQ drilled from surface until fresh rock encountered, then changed to NQ for geotechnical holes. Resource holes drilled HQ from surface to fresh rock, then changed to NQ.
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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. 	 Quantitative auger, RAB and RC drill recoveries were not recoded by Goldfields Group, Monarch Gold Mining Company Ltd, WMC, Gilt Edged Mining NL, Siberia Mining Corporation, Maitland Mining NL, Newcrest Mining Ltd, Julia Mines NL, Placer Dome Asia Pacific Ltd, Goongarrie Gold Pty Ltd, Australian Consolidated Equities Ltd, Centaur Mining and Exploration Ltd, EGL, Britannia Gold NL, Glengarry Resources NL, Sundowner Minerals NL and Gutnick Resources NL. EGL - Diamond drill recoveries are recorded as a percentage calculated from measured core against downhole drilled intervals (core blocks). RC sample recoveries not recorded. Diamond Core recoveries are very high due to the competent ground. Any core recovery issues are noted on core blocks and logged. There is no known relationship between sample recovery and grade.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.	 Goldfields Group; Qualitative: colour, oxidation, hardness, shearing, texture, grain size, rock, alteration, minerals and Quantitative: alteration intensity, mineralisation intensity, structure intensity, vein percent. Monarch Gold Mining Company Ltd; Qualitative: colour, oxidation, hardness, shearing, texture, grain size, rock, alteration, minerals. Quantitative: alteration intensity, mineralisation intensity, structure intensity, vein percent. WMC; RC and diamond logging describes the dominant and minor rock types, mineralisation, oxidation, alteration, texture, vein type and basic structure. Quantitative values assigned to amounts of sulphides, alteration and veining. Gilt Edged Mining NL; Qualitative: rock code, alteration, sulphides, weathering. Siberia Mining Corporation Ltd; Qualitative: alteration, colour, lithology, oxidation, mineralogy, vein style, vein assemblage, remarks. Quantitative: mineralisation intensity. EGL; Qualitative: alteration, colour, grain size, lithology, oxidation, mineralogy, structure, texture, vein style, vein assemblage, remarks. Quantitative: mineralisation intensity, vein percent. Entire holes are logged in detail.
Sub-sampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all subsampling stages to maximise representivity of samples. 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. Whether sample sizes are appropriate to the grain size of the material being sampled. 	 Goldfields Group; RC samples were routinely collected at 1m intervals and riffle split. Diamond drill core samples were taken at geological boundaries and sawn in half. RC and diamond samples were dried, crushed, split, pulverised and a 50 gm charge taken. All sampling of resource drilling incorporated a system of standards and blanks to keep strict control on assay reliability. Monarch Gold Mining Company Ltd; RAB samples were collected at 1m intervals and 2m and 4m composites taken via a scoop method. RC samples were collected at 1m, 2m and 5m intervals. 1m samples were riffle split. Samples were prepared with a single stage mix and grind from which an assay charge was taken Composite samples with assays greater than 0.2 g/t Au were split at 1m intervals and re-analysed. Field duplicate samples were taken and analysed every 20 samples. Blanks and standards were routinely submitted with assay batches to evaluate sample preparation and assay accuracy. WMC; In early drilling by WMC, samples were "panned" for visible gold. Percussion samples were collected at 1m intervals, split in the field. Diamond core samples were cut in half or quartered. Samples were dried in fan forced ovens at 80°C for paper packets and 140°C for samples in calico bags, sieved using a nylon mesh .Oversize samples crushed in Jacques jaw crusher to produce -6mm sample, split employing either a rotary or riffle splitter and pulverised using Tema Swing mills prior to analysis, except for soil and stream sediment samples finer than 80 mesh. A 25grm charge was taken for assaying.

Criteria	JORC Code explanation	Commentary
		 Gilt Edged Mining NL; All RAB and RC holes were collected through a cyclone and sampled at 1m intervals, pipe or spear sampled, composited over 5m intervals. The composite samples weighing about 3kg were despatched for analysis. 5m composites with assays greater than 0.2 g/t Au were resampled by riffle-splitting the whole of each 1m sample down to about 3kg prior to being despatched for analysis. Samples were despatched to MinLab in Kalgoorlie where they were dried, pulverised to a nominal 90% minus 200 mesh (75 microns) and a 25 gm aliquot taken to be analysed for gold. Comprehensive QA/QC and check sampling reports were produced. Umpire assay checks were completed using a second laboratory (Genalysis). Siberia Mining Corporation Ltd; RAB samples were collected at 1m intervals from the drill hole using a plastic bucket and laid on the ground. A scoop sample was taken from each sample to form a 5m composite. RC samples were collected at 1m intervals, and passed through a cyclone and split using a two teared, 75:25 riffle splitter. The split sample (approximately 2-3kg) was stored in a drawn calico bag, which was then placed next to the split sample reject (approximately 10-15kg), which was contained in UV resistant PVC bags. A representative scoop sample was then taken from each split sample reject bags to form a 4m composite sample. Diamond half core was sampled at 1m intervals. Samples were dried, crushed, split, pulverised until 80% passed minus 75 microns and a 50 gm charge taken. Field duplicates were submitted. Composites with assays greater than 0.2 g/t Au were re-assayed using individual 1m re-split samples. EGL & Swan Gold; RC samples were routinely collected at 1m intervals from a cone splitter and submitted for analysis. Samples were crushed, pulverised and a 50gm charge taken for analysis. Field duplicates, blanks and standards were submitted for QAQC analysis. Diamond core in sampled at 1m intervals or to zones of geological interest. Core samples are sawn in
Quality of assay data and laboratory tests	 The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. 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. 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. 	 Goldfields Group; Auger samples were set to Analabs (Welshpool) to be assayed for gold to 1ppb by graphite furnace P605 and arsenic to 1ppm by aqua regia hydride H605. RC samples were submitted to Australian Laboratory Services (ALS) in Kalgoorlie for gold and arsenic analysis. Fire assay methods were used for gold analysis with 50gm charge, detection limit of 0.01ppm Au, while Aqua Regia methods, with detection limits of 5ppm As, were used for arsenic analysis. Diamond drill core samples were despatched to Genalysis in Kalgoorlie and analysed for gold using 50gm fire assay to 0.01ppm. A system of standards and blanks were incorporated in all sample despatches to keep a strict control on assay reliability. QA/QC reassaying of mineralised RC intersections and interpreted structures was undertaken later in the reporting period. Monarch Gold Mining Company Ltd; Samples submitted to ALS for 50g Fire Assay with AAS finish. Samples were also analysed at Ultratrace for gold, palladium and platinum. Submitted field duplicates, blanks and standards for QAQC analysis. WMC; All samples were sent to WMC Exploration Division Kalgoorlie Laboratory to be analysed for gold using wet method, aqua regia leach, reading by AAS; a 25gm sample was digested with aqua regia, the gold extracted using aliquot DIBK and the solvent backwashed. The gold concentration was determined by Atomic Absorption. Gilt Edged Mining NL; All samples were submitted to Minlab of Kalgoorlie to be assayed for gold; 5m composites were analysed by aqua regia/AAS with a detection limit of 0.01ppm and 1m samples assayed by Fire/AAS with a detection limit of 0.01ppm. Certified reference material standards were employed. Duplicate samples, analytical standards, and check analyses at a second laboratory were used to monitor analytical quality. Siberia Mining Corporation Ltd; All samples were submitted to SGS Analabs in Kalgoorlie to be assayed for gold using 50gm Fire Assay with detection limit at 0

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	 Selected drill intersections from WMC, Goldfields and Siberia Mining Corporation diamond core have been inspected by EGL geologists. Some WMC holes have been re-logged by EGL geologists and mineralisation identified at the reported intervals. Drill intersections from WMC and Goldfields diamond core were inspected by Siberia Mining Corporation geologists in 2005 and mineralization was visible in core at the expected intervals. Mineralisation widths and styles are very comparable with NQ2 drilling by SMC in 2004. Holes are not deliberately twinned. WMC; Handwritten geology logs and assays were digitally captured. EGL; Data has been verified by reviewing original drill and assay logs. Print outs of computerized sample intervals and assays generated by WMC were used to verify the intercepts reported. Geological and sample data logged directly into field computer at the core yard. Data is transferred to Perth via email and imported into GBIS SQL database by the database administrator (DBA). Assay files are received in .csv format and loaded directly into the database by the DBA. Hardcopy and/or digital copies of data are kept for reference if necessary. Monarch Gold Mining Company Ltd; Geological and sample data was logged digitally and .csv or .xls files imported into Datashed SQL database with in-built validation. Data entry, verification and storage protocols for remaining operators is unknown. No adjustments have been made to assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	 No adjustments have been made to assay data. Goldfields Group; Collar co-ordinates for RC and DD holes, including elevation were surveyed with DGPS. RAB holes were located with GPS. Downhole surveys were taken every 10m for RC and DD holes, method unknown. RAB holes not downhole surveyed. The gird system used is AGD 1984 AMG Zone 51. Monarch Gold Mining Company Ltd; Drill hole collars were surveyed by Spectrum Surveys of Kalgoorlie using RTK GPS. Downhole surveys were undertaken by electronic multiple shot (ems) or Eastman single shot. The gird system used is GDA1994 MGA Zone 51. WMC; Drill hole collars were surveyed by Electronic Distance Meter (EDM) theodolite by the Kalgoorlie Gold Operations' mine surveyor. Holes also surveyed using theodolite by McGay Surveys as well as by WMC mine surveyors. WMC RC holes were generally not downhole surveyed. Diamond holes down hole surveyed by Eastman single shot camera or multishot approximately every 30m. The gird system used is AGD 1984 AMG Zone 51. Gilt Edged Mining NL; Contract surveyors were engaged for siting of drill holes prior to drilling, pick-up of accurate drill hole co-ordinates after drilling and down-hole plunge and azimuth readings. All holes drilled after 1998 were picked up by Fugro Survey Pty Ltd of Kalgoorlie using differential GPS. The gird system used is AGD 1984 AMG Zone 51. Siberia Mining Corporation Ltd; Collar co-ordinates for northings, eastings and elevation were recorded by Fugro Spatial Solutions Pty Ltd. The gird system used is AGD 1984 AMG Zone 51. Diamond holes were down hole surveyed by gyro. RC holes generally not downhole surveyed. If surveyed, then done by Digital electronic multishot (DEMS) EGL and Swan; Collar locations were surveyed by DGPS and downhole surveys were collected using electronic multishot by the drillers. Subsequent to drilling holes were open hole gyro surveyed by ABIMS where possible. The gird system used is GDA1994 MGA Zone 5
Data spacing and distribution	 Data spacing for reporting of Exploration Results. 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. Whether sample compositing has been applied. 	 Drilling is predominantly on a 20mE X 20mN grid. At Sand King the data spacing and distribution is sufficient to establish geological and grade continuity to support the definition of Mineral Resource and classifications as defined under the JORC 2012 Code. Samples are not composited for reporting. Samples are composited for resource calculations.

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	 Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. 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. 	 At Sand King drilling is predominantly inclined to the south, optimal for the predominantly east-west striking, north dipping mineralisation. It is not known whether there is any introduced sample bias due to drill orientation.
Sample security	The measures taken to ensure sample security.	 Unknown for earlier operators. EGL – Samples are bagged, tied and in a secure yard on site. Once submitted to the laboratories they are stored in cages within a secure fenced compound. Samples are tracked through the laboratory via their LIMS.
Audits or reviews	 The results of any audits or reviews of sampling techniques and data. 	 Digital data from the SQL database has been reviewed by EGL and is consistent with hard copy and digital WAMEX data. Goldfields Group and WMC; Siberia Mining Corporation conducted a due diligence on the data and core in 2005 and were "comfortable with the quality and integrity of the data". Digital data has been reviewed and is consistent with hard copy data. Monarch Gold Mining Company Ltd; Monthly QAQC reports were produced to monitor accuracy and precision.

9.1 Section 2 Reporting of Exploration Results

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

Criteria	J	ORC Code explanation	Cor	nmentary	′	
Mineral tenement and land tenure status	 Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, 	 Sand King deposit is on Tenement M24/290 held by Siberia Mining Corporation Pty. Ltd., a wholly owned subsidiary of Ora Banda Mining Ltd. The tenement is in good standing. There are no heritage issues. 				
		partnerships, overriding royalties, native title		TENEMENT	HOLDER	AGREEMENTS
	interests, historical sites, wilderness or nation park and environmental settings. • The security of the tenure held at the time of			M24/0290	SIBERIA MINING CORPORATION PTY LTD	M24/290 - SIBERIA GRANTED GARDNER THE RIGHT TO EXPLORE FOR NICKEL MINERALS ON M24/290. ROB MITCHELL AND HANK SHRE (SURFACE ALLUVIAL RIGHTS TO 2M DEPTH)
		reporting along with any known impediments to obtaining a licence to operate in the area.				M24/0352 - ROB MITCHELL AND HANK SHRERS (SURFACE ALLUVIAL RIGHTS TO 2M DEPTH)
			•		heritage issues known impedime	ents to operating in the area.
Exploration done by other parties	•	Acknowledgment and appraisal of exploration by other parties.	 Drilling on the tenements was completed by numerous operators, but the majority of work was completed by WMC, Gilt Edged Mining, Siberia Mining Corporation, Monarch Gold and Swan Gold. All work by these companies was to industry standards of the time 			
Geology	•	Deposit type, geological setting and style of mineralisation.	 Sand King is an orogenic lode style deposit hosted by mafic rocks, predominantly basalt Gold mineralisation at Sand King takes the form of stacked quartz-biotite-feldspar-sulphide shear lodes within the basalt. Widths vary from sub 1m to ~ 6m true width. Mineralised structures are NE-SW striking in the south and normally steeply dipping to the north while in the north-eastern end of the deposit mineralisation is interpreted to dip shallower to the north (~60 degrees) 			

Criteria	JORC Code explanation	Commentary
Drill hole Information	 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: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. 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. 	 Tables of all drill intercepts from all recent drilling have been previously released to the market. See ASX release dated 15 December 2016. Where include in diagrams the intercepts from historic drilling have been tabulated in the ASX releases No drill assays are being released
Data aggregation methods	 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. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	No drill assays are being released
Relationship between mineralisation widths and intercept lengths	 These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. 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'). 	 Drilling is predominantly angled at -60° to the south, optimally intersecting the steep north dipping mineralisation. This drill orientation does not intersect all lodes at optimally angles and as such some drill intercepts are longer that true widths. All intercept widths reported are down hole lengths. The geometry of mineralisation is known for the Sand King deposit. However no attempt has been made to report true widths.
Diagrams	 Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	See plans and sections.

Criteria	JORC Code explanation	Commentary
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. 	All drill intercepts from recent drilling are reported.
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.	 Metallurgical and geotechnical work has been completed for Sand King deposit in the past. Additional metallurgical, geotechnical, environmental and engineering work has been or is in the process of being completed for Sand King deposit.
Further work	 The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	 Cross over studies to quantify the underground mining potential of the deposit Statutory approvals for mining Sand King are in progress.

9.2 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	 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. Data validation procedures used. 	 Data from EGL drilling captured into Field Marshall logging software. Data sent from site and imported into SQL database via DBMS. Validation checks in SQL database ensure data integrity is not compromised. Data for use in resource estimation derived directly from SQL via queries (views) Data validation included: review of historic digital data versus original

Criteria	JORC Code explanation	Commentary
		hardcopy records o Inspection of mineralised intervals in historic core
Site visits	 Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	Numerous site visits completed to:
Geological interpretation	 Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	 Sand King pit has been recently mapped by structural geological consultants who determined the structural controls on mineralisation. Structural orientations seen in pit walls and from ore mark ups completed by previous operators. Mineralised structures are NE-SW striking, steeply dipping to the north. An extensive relog program of historic diamond core was completed to provide consistency with EGL geological logging. Inspection of core and ore shows the mineralisation to be associated with quartz-carbonate veining and biotitesulphide alteration either side of the veining. Resource interpretations guided by presence and intensity of veining and/or biotite noted in logging. Geological continuity of NE-SW strictures are well defined, although terminate abruptly. Mineralisation is also locally complicated by intruding felsic dykes.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The Sand King deposit extends for over 800m in NE-SW direction and approximately 300m in a SE-NW direction. The Resource extends for 280m below the surface RL of 420m AHD.
Estimation and modelling techniques	 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. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions about correlation between variables. 	 1m composite samples coded to the mineralised domains used as inputs to estimation. Only RC and diamond drilling samples used for estimation. Ordinary Kriging (OK) was used to estimate gold grades into a 3-dimensional block model. Estimation parameters derived from modelled semi-variograms. Micromine software was used for the estimation. A high grade cut of between 10 and 30g/t was applied to 1m composite data based on analysis of individual domains. The parent block dimensions used were 10m NS by 10m EW by 5m vertical with sub-cells of 1m by 1m by 0.5m. Drill hole spacing is approximately 20m between section and 20m along section. A parent block size of 10m x 10m x 5m was selected (approx. 50% of data spacing). An orientated ellipsoid search was used to select data and was based on parameters derived from the variography. Estimation completed in 4 runs each with less restrictive

Criteria	JORC Code explanation	Commentary
	 Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	search, and minimum sample parameters. The initial interpolation pass was used with a maximum range of 70m and minimum number of samples of 20. Range increased progressively and number of samples required reduced for each subsequent run. No estimation of deleterious elements was carried out. Only Au was interpolated into the block model. Previous resource estimates have been completed in 2007, and internally Resource in 2013. This estimate compares favourably to the 2013 estimate. Globally, ore tonnes are similar slightly higher band grade is lightly lower reflecting slightly more dilution built in the 2016 model. Compared to the 2007 model, this model represent a substantial increase (91% increase in ounces) and in related to a more comprehensive geological modelling along with significant more drilling conducted by OBM. No assumptions have been made regarding recovery of byproducts. Selective mining units were not modelled in the Mineral Resource Only Au was estimated so correlation analysis was not possible The deposit mineralisation was constrained by wireframes constructed using a 1 g/t Au cut-off grade in association with logged geology, particularly the presence of quartz veining and biotite-sulphide alteration. The wireframes were applied as hard boundaries in the estimate. The validation was carried out by two methods: Visual comparison of block grades with nearby drill assay results on a section by section basis. Comparison of estimated grades and composite grades on a domain by domain basis.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages and grades were estimated on a dry in situ basis. No moisture values were reviewed.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource has been reported at a 1.0 g/t Au cut- off based on assumptions about economic cut-off grades for open pit mining.
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	 The deposit has previously been mined using selective open pit mining methods. It is intended to adopt similar selective mining practises at the deposit. Selected mineralised lodes are thought to be amenable to

Criteria	JORC Code explanation	Commentary
	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.	underground mining, being of sufficient grade and continuity. No mining parameters or modifying factors have been applied to the Mineral 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.	 Sand King deposit has been successfully mined in the past with no reported metallurgical issues. Metallurgical test-work was undertaken by previous operators at the project and has been reviewed Results from previous processing have demonstrated that good gold recovery can be expected from conventional CIL processing methods.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	The previous mining operations included the development of waste dumps at the site. These dumps will be expanded to accommodate additional waste disposal. The area is not located in an environmentally sensitive area so there is no reason to believe that environmental approvals would restrict development of the project.
Bulk density	 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. 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. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	 Bulk density determinations were derived from historic measurements. Bulk density values used in the resource were 1.8t/m3, 2.4t/m3 and 2.85t/m3 for oxide, transitional and fresh mineralisation respectively. Waste basalt bulk density was 3.0t/m3 These bulk density estimates are similar to values determined for comparable basalt hosted gold deposits
Classification	 The basis for the classification of the Mineral Resources into varying confidence categories. 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). Whether the result appropriately reflects the Competent Person's view of the deposit. 	Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified as Indicated and Inferred Mineral Resource on the basis of data quality, sample spacing, and lode continuity. The Indicated portion of the Mineral Resource was defined where: Good data support exists with drill hole spacing averaging 20m x 20m Low kriging variance (<0.3) and average distance of informing points less than 20m.

Criteria	JORC Code explanation	Commentary
		The remaining portions of the deposit were classified as Inferred Mineral Resource where: Data support is poorer with drilling typically greater than 20m x 20m Estimation quality is lower defined by a slope of regression typically between 0.3 and 0.65 Inferred resources are typically at the periphery of mineralised domains and at depth where confidence is generally lower. The definition of mineralised zones is based on sound geological understanding of the controls on mineralisation. This has produced a robust model of mineralised domains. This model differs slightly from previous models where only steep lodes were modelled. The northern end of the deposits has moderately north dipping lodes modelled. d resources are typically at the periphery of mineralised domains and at depth where confidence is generally. The Mineral Resource estimate appropriately reflects the view of the Competent Person.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The model is the subject of an internal review process by suitably qualified EGL personnel.
Discussion of relative accuracy/ confidence	 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. 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. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	 The Sand King Mineral Resource estimate is considered to be reported with a reasonable degree of confidence. The data quality is good and the drill holes from recent drilling have detailed logs produced by qualified geologists. Historic logging has been reviewed. The Mineral Resource statement relates to global estimates of tonnes and grade. Confidence in the estimate allows reasonable quantification of global metal content. However, at a local scale there are risks associated with the estimation, largely due to the deposit consisting of numerous stacked lodes in multiple orientations. The interpretation is considered globally robust but at a local scale variations to ore geometry could be expected. The deposit is not currently being mined. Historical production records are available for the deposit when previously mined.

9.3 Section 4 Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	 Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves. 	 The Mineral Resource used as the basis of this Ore Reserve was released to market (Sandking - January 2017 and Missouri – December 2016) Mineral Resources are reported inclusive of the Ore Reserves.
Site visits	 Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	The Competent Person has not visited the Sand King mining area, however the Competent Person is comfortable relying on reports from other independent consultants and detailed site surveys in determining the viability of the Ore Reserves in this area.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	 Mining studies to a Pre-Feasibility Study level have been completed for all material being converted from Mineral Resource to Ore Reserve. Modifying factors accurate to the study level have been applied based on detailed selective mining unit (SMU) and stope design analysis. Modelling indicates that the resulting mine plan is technically achievable and economically viable.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	 Cut-off grade parameters were determined based on study work and historical costs from the Davyhurst Project as well as the application of selective mining unit (SMU) parcels created using a minimum SMU width of 2.0 m, suitable for the proposed mining fleet. An overall processing cost of A\$43.55/t ore was used against the value per gram of gold at \$65 and 93% metallurgical recovery to arrive at an incremental cut-off grade of 0.72g/t gold. The cut-off grade was applied to the diluted Mineral Resource.
Mining factors or assumptions	 The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling. The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). The mining dilution factors used. Any minimum mining widths used. The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. The infrastructure requirements of the selected mining methods. 	 Detailed mine designs were used as the basis for the Ore Reserve estimate. Conventional mining methods were chosen. Open cut operations are planned around using 120 t-class excavators and 90 t dump trucks. All material excluding existing in-pit backfill or historical waste dumps was assumed to require drilling and blasting using ANFO for costing and scheduling purposes. The mining methods chosen are well-known and widely used in the local mining industry and production rates and costing can be predicted with a suitable degree of accuracy. Suitable access exists to the mine. Independent consultants prepared a geotechnical analysis to a suitable level of detail. This forms the basis of pit wall design criteria. Cost allowances were made for grade control activities. Only the Indicated portion of the Mineral Resource was used to estimate the Ore Reserve. All Inferred material has been treated as waste (i.e. grade has been set to zero). The Ore Reserve is technically and economically viable without the inclusion of Inferred Mineral Resource material. Open pit mining blocks were diluted based on detailed SMU analysis. Mining Dilution is inclusive within the SMU shapes created. SMU shapes were created using an increment of 2.5m along strike, 2.5m in height and subject to a minimum SMU width of 2.0m. Open pit mining recovery was based on detailed SMU analysis. Mining Recovery is accounted for within the SMU shapes created.

Criteria	JORC Code explanation	Commentary
		 Most of the infrastructure required for the operations is already in place at the Davyhurst Project, including a processing plant and associated infrastructure, camp, airstrip, offices, power reticulation, borefields and coreyards.
Metallurgical factors or assumptions	 The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. Whether the metallurgical process is well-tested technology or novel in nature. The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. Any assumptions or allowances made for deleterious elements. The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications? 	 The proposed process for material is Crush-Grind-Gravity-Leach-CIL, a standard gold processing flowsheet used throughout the industry for this style of mineralisation. Enough recent processing plant production data exists to estimate metallurgical recoveries and throughput rates to a suitable degree of accuracy. Recoveries have been applied to individual mines by weathered material type, these being 93% for oxide and transitional materials and 92% for fresh material within the Sandking deposit, 93% for oxide and transitional materials and 92% for fresh material within the Missouri deposit. A nominal processing throughput rate of 1.2Mtpa ore has been assumed. Metallurgical testing has been performed on diamond drill holes in well-known and recognised laboratories to standard test practices on enough samples to be representative of the different domains. No deleterious elements were detected.
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	 Environmental impacts and hazards are being considered as part of the DMIRS application process. Historical data indicates that the rock mass is non-acid forming. Tailings from ore processing will be stored within the existing Tailings Storage Facility (TSF). Allowance has been made for expansions to this facility as required by the mine plan. At this point in time the Competent Person sees no reason why permitting will not be granted within a reasonable time frame.
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	Substantial infrastructure exists on-site at the Davyhurst Project from previous operations (which ceased in 2018 and have been on care and maintenance since that time), and refurbishment of this infrastructure has been allowed for in the detailed cost model. The site is located approximately 120 km by road from the regional centre of Kalgoorlie. An airstrip at Callion can service the mine.
Costs	 The derivation of, or assumptions made, regarding projected capital costs in the study. The methodology used to estimate operating costs. Allowances made for the content of deleterious elements. The source of exchange rates used in the study. Derivation of transportation charges. The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. The allowances made for royalties payable, both Government and private. 	 Existing infrastructure refurbishment capital estimates are based on quotes from vendors following inspections. Surface mining capital costs including contractor mobilisation and set-up and site preparation have been estimated based on a quotation provided by a reputable mining contractor. Mining operating costs have been estimated based on a quotation provided by a reputable mining contractor. Power, diesel and accommodation costs have been determined based on available pricing and or quotation from reputable suppliers/contractors. Staff costs have been assumed based on current market salary levels. Processing operating costs were determined based on historical processing experience

Criteria	JORC Code explanation	Commentary
		updated with vendor quotations for consumables. No deleterious elements are expected to report through the process into the saleable product. All costs have been estimated in Australian dollars. Key financial cost are tabled below:
		Capital Units Total
		Plant Refurbishment A\$m 8.5
		Pre-production A\$m 10.8
		Sustaining A\$m 0.9
		Operating Units Total
		Mining A\$/t ore 54.2
		Processing A\$/t ore 30.1
		Surface Haulage A\$/t ore 5.5
		Mine Site G&A A\$/t ore 9.0
		Royalty A\$/t ore 3.5
		Total A\$/t ore 102.3
	revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	 factors. The assumed metal price used for revenue calculation was A\$2,000/oz before selling costs. All costs had transportation charges built into the final figure. No transportation charges were assumed for the product as it will be transported from site on scheduled flights. A 2.5% WA state government royalty has been allowed for.
Market assessment	 The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. A customer and competitor analysis along with the identification of likely market windows for the product. Price and volume forecasts and the basis for these forecasts. For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract. 	 Gold doré from the mine is assumed to be sold at the Perth mint as soon as it is produced. The assumed metal price used for revenue calculation was A\$2,000/oz with no adjustments for future forecasting. The price used was based on internal forecast assessment by OBM
Economic	 The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. NPV ranges and sensitivity to variations in the significant assumptions and inputs. 	 The Ore Reserve estimate is based on a financial model that has been prepared at a Pre-Feasibility Study level of accuracy. All inputs from open pit operations, processing, transportation and sustaining capital as well as contingencies have been scheduled and evaluated to generate a full life of mine cost model. Economic inputs have been sourced from suppliers or contractors. A discount rate of 8%pa has been applied. The NPV of the project is positive at the assumed commodity price. The Competent Person is satisfied that the project economics based on mining the Ore Reserve retains a suitable margin of profitability at up to a 10% decrease in assumed gold price.

Criteria	JORC Code explanation	Commentary
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	To the best of the Competent Persons knowledge all agreements are in place and current with all key stakeholders including traditional owner claimants.
Other	 To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: Any identified material naturally occurring risks. The status of material legal agreements and marketing arrangements. The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent. 	 A formal process to assess and mitigate naturally occurring risks will be undertaken prior to execution. Currently, all naturally occurring risks are assumed to have adequate prospects for control and mitigation. The approvals process for commencement of mining operations is underway. Based on the information provided, the Competent Person sees no reason why all required approvals will not be successfully granted within the anticipated timeframe.
Classification	 The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the Competent Person's view of the deposit. The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any). 	 The Probable Ore Reserve is based on that portion of the Indicated Mineral Resource within the mine design that may be economically extracted and includes an allowance for dilution and ore loss. None of the Probable Ore Reserves have been derived from Measured Mineral Resource. The result appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Ore Reserve estimate, along with the mine design and life of mine plan, has been peer-reviewed by Entech internally.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. 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. Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.	 The design, schedule and financial model on which the Ore Reserve is based has been completed to a Pre-Feasibility Study standard, with a corresponding level of confidence. The Ore Reserve is based on a global estimate. There is a degree of uncertainty associated with geological estimates. The Reserve classifications reflect the levels of geological confidence in the estimates. There is a degree of uncertainty regarding estimates of impacts of natural phenomena including geotechnical assumptions, hydrological assumptions and the modifying mining factors, commensurate with the level of study. The Competent Person is satisfied that the analysis used to generate the modifying factors is appropriate, and that a suitable margin exists to allow for the Reserve estimate to remain economically viable despite reasonably foreseeable negative modifying factor results. There is a degree of uncertainty regarding estimates of commodity prices and exchange rates, however the Competent Person is satisfied that the assumptions used to determine the economic viability of the Ore Reserves are reasonable based on current and historical data.

Criteria	JORC Code explanation	Commentary
	It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	