

## **ASX Announcement**

31 May 2017

# **Nicolsons Project Mineral Resource & Ore Reserve Update**

Pantoro Limited (**ASX:PNR**) (**Pantoro**) is pleased to report significant upgrades to the Mineral Resources and Ore Reserves at the Nicolsons Gold Project. Mineral Resources have been updated in the Nicolsons, Wagtail, and Rowdies Orebodies.

# **Key Highlights**

- The total Mineral Resource now stands at 1.58 million tonnes @ 7.43 g/t for 376,701 ounces.
- The total Ore Reserve now stands at 773,252 tonnes @ 7.35 g/t for 182,823 ounces, a 62% increase after mining depletion.
- The Ore Reserve provides a base case life of approximately four years, with excellent potential for further increases through drilling and mine development.
- Mineralisation remains open at depth in all lodes currently being mined at Nicolsons and Wagtail. Ongoing drilling programs are continuing aimed at establishing additional Ore Reserve increases in the near term.
- When taking total mining depletion (by Pantoro and reported by other companies historically) of approximately 74,000 ounces<sup>1</sup> into account, the total known gold endowment for the project is over 451,000 ounces.
- Early ore mining on the first two levels in the southern Johnston Lode has already resulted in development of high grade ore from outside of the new Mineral Resource and Ore Reserve. The results to date suggest that further upgrades, similar to those seen in early development of the northern Hall and Anderson Lodes may eventuate.
- The Pantoro Board of Directors has approved acceleration of exploration activities across the project areas with
  additional drilling from both surface and underground. Exploration activities in the coming year will include
  increased drilling activity, extensive geochemical sampling programs, and geophysical surveys to identify
  additional targets across the Company's tenements.

Key Mineral Resource details are set out in the table below:

		Measured		Indicated			Inferred			Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
Nicolsons	150,229	16.43	79,351	707,264	8.16	185,602	195,312	8.00	50,209	1,052,805	9.31	315,162
Wagtail	-	-	-	260,590	4.06	34,018	68,582	3.82	8,416	329,172	4.01	42,433
Rowdies	-	-	-	79,644	3.49	8,937	69,417	2.07	4,620	149,061	2.83	13,556
HG Stockpiles	16,042	7.11	3,667	-	-	-	-	-	-	16,042	7.11	3,667
LG Stockpiles	30,514	1.92	1,882	-	-	-	-	-	-	30,514	1.92	1,882
Total	196,785	13.42	84,900	1,047,498	6.79	228,556	333,311	5.90	63,245	1,577,594	7.43	376,701

1. Pantoro production to the end of April 2017 is 46,065 ounces, historical production reported by Precious Metals Australia is approximately 23,000 ounces and historical production reported by Rewah is approximately 4,800 ounces.

Key Ore Reserve details are set out in the table below:

		Proven			Probable		Total			
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	
Nicolsons Underground	136,005	10.60	46,329	443,142	6.78	96,610	579,147	7.68	142,939	
Nicolsons Pits	31,165	12.39	12,416	23,189	8.42	6,275	54,354	10.70	18,691	
Wagtail	-	-	-	93,196	5.22	15,643	93,196	5.22	15,643	
Rowdies	-	-	-	-	-	-	-	0.00	-	
HG Stockpiles	16,042	7.11	3,667	-	-	-	16,042	7.11	3,667	
LG Stockpiles	30,514	1.92	1,882	-	-	-	30,514	1.92	1,882	
Total	213,726	9.36	64,294	559,527	6.59	118,529	773,252	7.35	182,823	

Commenting on the Mineral Resource and Ore Reserve upgrade, Managing Director Paul Cmrlec said:

"Pantoro commenced gold production at Nicolsons less than two years ago. Since that time, we have undertaken major production increases and expanded exploration efforts using cashflow generated from the operation.

Both Nicolsons and Wagtail have consistently outperformed the previous Ore Reserve estimates and we continue to encounter very high grade mineralisation at Nicolsons and Wagtail. This Mineral Resource and Ore Reserve upgrade has produced substantial mine life extension, and exploration results during the past year have proven the huge potential of this project. We continue to believe that we have only scratched the surface at Halls Creek with plenty of upside to come.

The Pantoro board has recently approved acceleration of exploration activity as the company seeks to define Western Australia's next major gold mining camp. We will continue to aggressively explore with the clear intention to facilitate further production increases through Ore Reserve growth in the near term."

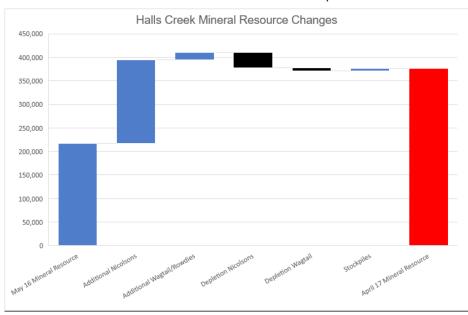
### **Enquiries**

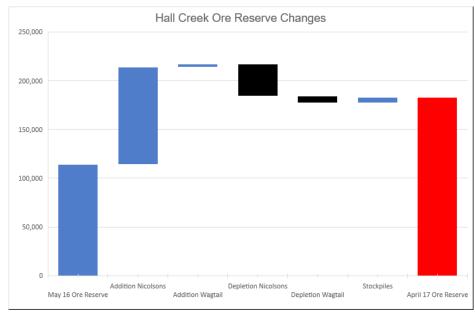
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## **Mineral Resource and Ore Reserve Update**

The Mineral Resource and Ore Reserve has been constructed in compliance with the requirements of the JORC 2012 guidelines. Additional ore has been identified using drilling data, combined with mine development activities. The new Mineral Resource and Ore Reserve is compared with the previous estimate in the table below. The previous Mineral Resource and Ore Reserve estimate was released to the ASX on the 30 May 2016 in a release titled "Mineral Resource and Ore Reserve Upgrade Demonstrates Strong Growth Potential at Nicolsons".

The new Mineral Resource and Ore Reserve update is calculated as at the 30 April 2017. A comparison of the previous Mineral Resource Estimate and the current Mineral Resource Estimate is provided below.





## **Mineral Resource Update - Nicolsons**

The Nicolsons Mineral Resource update has been completed in accordance with JORC 2012 by Pantoro Geologists under the supervision and review of the Competent Person. Key changes in the Mineral Resource Estimate include:

- Modification of ore zones the geological interpretation of the mineralised domains were re-interpreted using additional face sampling and drilling data obtained since the previous Mineral Resource and Ore Reserve upgrade.
- Additional data approximately 16,670 metres of diamond drilling was completed during the year, with all
  available assay results utilised in the Mineral Resource Estimate. Face sampling of ore drives was also undertaken
  over approximately 100 vertical metres and 2,654 lateral metres utilised in the estimate. Mining of ore outside of
  previous estimates has resulted in substantial ore upgrades on most underground levels.
- Re-classification of ore categories ore within the block model was classified into the Measured, Indicated and Inferred categories as appropriate. The classification was based on data density and statistical analysis of that data.
- Depletion The Mineral Resource had mining depletion applied based on accurate, up to date survey data.

Details of the Nicolsons Mineral Resource are set out in the table below:

	Measured			ı	Indicated		Inferred			Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
May 2016 Resource	46,186	17.28	25,660	478,686	6.73	103,593	195,042	6.75	42,328	719,914	7.41	171,581
April 2017 Resource	150,229	16.43	79,351	707,264	8.16	185,602	195,312	8.00	50,209	1,052,805	9.31	315,162

#### **Ore Reserve Update - Nicolsons**

The Nicolsons Ore Reserve update has been completed utilising functional mine designs using both underground and open pit methods. Underground mining is the primary ore extraction method, with open pit mining planned for extraction of the crown pillar towards the end of the mine life. There is also a small open Ore Reserve in the upper areas of the Johnston Lode.

Changes to the Ore Reserve include:

- Addition of Ore Reserve blocks where the Mineral Resource estimate has classified new zones of Measured and Indicated Mineral Resource material as a result of additional data.
- Application of actual mining costs at the mine since September 2015.
- Depletion of zones that have been mined or sterilised.
- Addition of ore stockpiled on the surface.

Details of the Nicolsons Ore Reserve are set out in the table below:

		Proven			Probable		Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
May 2016 Ore Reserve	93,864	10.38	31,327	325,033	6.24	65,225	418,897	7.17	96,551
April 2017 Nicolsons Underground	136,005	10.60	46,329	443,142	6.78	96,610	579,147	7.68	142,939
April 2017 Nicolsons Pits	31,165	12.39	12,416	23,189	8.42	6,275	54,354	10.70	18,691

## Mineral Resource Update - Wagtail/Rowdies

The Nicolsons Mineral Resource update has been completed in accordance with JORC 2012 by Pantoro Geologists under the supervision and review of the Competent Person. Key changes in the Mineral Resource Estimate include:

- Identification and estimation of additional Mineral Resource through grade control drilling programs prior to the commencement of mining.
- Depletion of Ore mined up to 30 April 2017 from the model.

The Mineral Resource update has not taken assays from diamond drilling below the open pit designs since the last update. While the drilling has returned a number of positive, high grade results it is considered that additional results are required prior to re-estimating the depth extents of the Mineral Resource.

Drilling beneath the Wagtail and Rowdies open pit design is planned to continue throughout 2017 with the aim of identifying Ore Reserves suitable for underground mining methods. It is noted that the open pit mines at Wagtail have substantially out-performed the Mineral Resource estimate to date. The over performance has not been factored into the new Mineral Resource estimate.

	Measured				Indicated			Inferred			Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	
May 2016 Wagtail	-	-	-	236,000	4.6	3,5000	17,000	3.4	2,000	253,000	4.55	37,000	
May 2016 Rowdies	-	-	-	52,000	4.4	7,000	13,000	4.7	2,000	65,000	4.31	9,000	
April 2017 Wagtail	_	_	_	260,590	4.06	34,018	68,582	3.82	8,416	329,172	4.01	42,433	
April 2017 Wagtali	_	_		200,390	4.00	34,010	00,362	3.02	0,410	329,172	4.01	42,433	
April 2017 Rowdies	-	-	-	79,644	3.49	8,937	69,417	2.07	4,620	149,061	2.83	13,556	

#### Ore Reserve Update - Wagtail

The Wagtail Ore reserve is based on the open pit mine designs which are currently active. Only Measured and Indicated Mineral Resources which lie within the current pit designs have been included in the Ore Reserve. Changes to the Ore Reserve include:

- Modification of the open pit designs following grade control drilling programs undertaken prior to the commencement of mining.
- Depletion of zones which have been mined.
- Addition of ore stockpiled on the surface.

		Proven			Probable				
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
May 2016 Wagtail Ore Reserve	-	-	-	96,500	5.55	17,219	96,500	5.55	17,219
April 2017 Wagtail Ore Reserve	-	-	-	93,196	5.22	15,643	93,196	5.22	15,643

#### **Compliance Statements**

#### **Exploration Targets, Exploration Results, Mineral Resources**

The information in this report that relates to Exploration Targets, Exploration Results and Mineral Resources is based on information compiled by Mr Scott Huffadine (B.Sc. (Hons)), a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Huffadine is a Director and full time employee of the company. Mr Huffadine is eligible to participate in short and long term incentive plans of and holds shares, options and performance rights in the Company as has been previously disclosed. Mr Huffadine has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 Huffadine consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### **Ore Reserves**

The information in this report that relates to Ore Reserves is based on information compiled by Mr Paul Cmrlec (B. Eng (Mining) (Hons), a Competent Person who is a Member of the Australian Institute of Mining and Metallurgy. Mr Cmrlec is a Director and full time employee of the company. Mr Cmrlec is eligible to participate in short and long term incentive plans of and holds shares, options and performance rights in the Company as has been previously disclosed. Mr Cmrlec has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 Cmrlec consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

# APPENDIX A – MATERIAL INFORMATION SUMMARY

A Material Information Summary pursuant to ASX Listing Rules 5.8 and 5.9 is provided below for Nicolsons Pits as the Nicolsons Pits Ore Reserve is being reported by Pantoro for the first time, commentary on changes between the May 2016 and April 2017 Mineral Resources and Ore Reserves is provided in the body of the report. The Assessment and Reporting Criteria in accordance with JORC Code 2012 is presented in Appendix B.

#### 1.1 Nicolsons Mineral Resources

#### 1.1.1 Geology and Geological Interpretation

Gold mineralization in the Nicolson's Find area is structurally controlled within the 400 m wide NNE trending dextral strike slip Nicolson's Find Shear Zone (NFSZ) and is hosted within folded and metamorphosed turbiditic greywackes, felsic volcaniclastics, mafic volcanics and laminated siltstones and mudstones. This zone forms part of a regional NE-trending strike slip fault system developed across the Halls Creek Orogen. Mineralisation is strongly correlated with quartz veining and with Fe-Si-K alteration halos developed in the wall rocks to the veins.

### 1.1.2 Sampling and Sub-sampling

Diamond core samples were sawn in half with one half used for assaying and the other half retained in core trays on site for future analysis and photographed. RC drill chip samples were collected with either a three-tier rig mounted riffle, rotary or stationary cone splitter depending on the drill rig used. Aircore drill samples were subset using a 3 tier riffle splitter. Most (> 95%) of samples are recorded as being dry. Face Chips samples are nominally chipped perpendicular to mineralisation across the face from left to right, and sub-set via geological features as appropriate

A QAQC program relating to drilling used in the estimate involving the use of standards, blanks and field duplicates.

#### **Sample Analysis Methods**

Assays are completed in a certified laboratory in Perth, WA. Sample preparation involves pulverising at the laboratory targeting 90% passing 75 micron. Gold assays are determined using fire assay with 40g charge and AAS finish. Other elements where assayed use acid digest with ICP-MS finish. Screen fire assays consists of screening 500g of the sample to 106 microns. The plus fraction is fire assayed for gold and a duplicate assay is performed on the minus fraction. The size fraction weights, coarse and fine fraction gold content and total gold content are reported. The methods used approach total mineral consumption and are typical of industry standard practice. Please refer to Table 1 in Appendix B for further details.

#### **Drilling Techniques**

Diamond drilling (predominantly LTK60 and NQ with HQ diameter), RC drilling (140-146mm face sampling hammers with earlier drilling 130mm) and underground development face chip sampling conducted perpendicular to the orebody and mapping on close spaced levels were the primary methods used to sample and inform the Nicolsons Mineral Resource. (For additional information refer Table 1 Appendix B of this report). Data for the current estimates includes some historic data but the bulk of the data was collected from 2007 to March 2017.

#### 1.1.3 Estimation Methodology

A block model was generated for the Nicolson's deposit. Individual mineralised structures were domained separately. Models contain grade estimates and attributes for blocks within each domain only. Ordinary Kriging (OK) and Inverse Distance (ID) using Surpac software was used to generate the Mineral Resource estimates. Due to the narrow vein nature of the orebody a 2D modeling method was utilised. Gram meters per ton were estimated using Ordinary Kriging (OK), Apparent wireframe width was estimated using inverse distance due to data density. Once the estimations were completed Au (gold gram per tonne) was back calculated by dividing (gold gram metres per tonne) by width meters.

#### 1.1.4 Resource Classification

Blocks in the resource model have been allocated a confidence category based on a combination of various estimation derived parameters, data support and geological / mining knowledge.

Blocks within the current pit design were deemed to have an appropriate level of confidence to be classified as Measured and Indicated Resources.

Density values were assigned to the model were based on testwork of oxide, transitional and fresh waste and ore material. Samples were derived for testwork on drill core using the water displacement method and data from historical mining and assigned based on oxidation levels defined by logging.

#### 1.1.5 Cut-off Grade

The cut-off of 0.6 g /t Au was used for the open pit resource.

High grades have been reduced (top cut) to a maximum level via statistical analysis the grade distribution in each domain.

#### 1.1.6 Mining and Metallurgical Methods and parameters and other modifying factors considered to date

See sections 1.2.3 and 1.2.4 below.

#### 1.2 Nicolsons Pit Ore Reserve

### 1.2.1 Material Assumptions for Ore Reserves

The Nicolsons Pit Ore Reserve estimate is defined by whittle optimisation and pit design which is based on geotechnical design parameters currently used in the current approved operations PMP, practical mining considerations and fundamental mine design principles. The Ore Reserve cost base assumptions are based on the site budget model and has been validated against actual operating costs. The bulk of the Reserve lies within the current crown pillar to the underground operations and extraction is contemplated to be conducted at the end of the current underground LOM.

#### **Ore Reserve Classification**

All of the in situ Ore Reserves are currently derived from Measured and Indicated Mineral Resources. The Proven and Probable Ore Reserves are derived from Measured and Indicated Resources. No Inferred Mineral Resource or unclassified material was included in the Conversion to Ore Reserve

#### **Mining Method**

The proposed open pit mining method is conventional drill and blast open pit mining ore and waste on 5 metre benches in 2.5 metre lifts/flitches. Quartz veining is faced off from hangingwall to footwall prior to extraction.

Designed pit slopes are consistent with geotechnical parameters identified prior to and during mining.

#### 1.2.2 Processing method

The ore is processed through the Nicolsons Find processing plant and utilizes a standard CIP method. This technology is well tested globally for gold bearing orebodies and the successful treatment of Nicolsons ores.

There are no deleterious elements identified

The current and estimated future average recoveries for the Nicolsons orebody are expected to be 97% for gold.

Recent operating history since commissioning supports the metallurgical parameters used in the Ore Reserve estimation.

#### 1.2.3 Cut-off Grade

Cut-off grades were calculated at 2.14 g/t Au for the A\$1,400/ oz open pit optimisation. Low grade blocks below the cut-off but above an incremental cut-off were not included in the Ore Reserve however it is intended to stockpile this material for processing at the end of the current life of mine.

#### 1.2.4 Estimation Methodology

See section 1.1.3 above.

#### 1.2.5 Material Modifying Factors

There are no concerning material modifying factors that need to be highlighted with the Ore Reserve. All regulatory leasing, approvals, licensing, agreements and current infrastructure are in place, which considers this estimation higher than that of a feasibility study.

# **APPENDIX B – JORC CODE 2012 EDITION – TABLE 1**

## **SECTION 1: SAMPLING TECHNIQUES AND DATA - NICOLSONS FIND**

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.)	This report relates to the annual update of the Mineral Resource and Ore Reserve statement for Nicolsons Find (Nicolsons) deposit at the Nicolsons gold project.
	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.	The Nicolson's deposit has been sampled predominantly by RC, underground diamond, historical earth saw lines within the existing open pit, underground face sampling, minor Kempe Diamond drilling and minor historical RAB about
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	the Nicolson's open pit area.
	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> </ul>	<ul> <li>Samples from the 2014 drill program are RC collars with diamond drill tails. Face chip samples were taken in accordance with observed geological features and are considered representative of the development face.</li> </ul>
	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).	• For RC drilling, measures taken to ensure sample representivity include the presence of a geologist at the rig whilst drilling, cleaning of the splitter at the end of every 3 m drill string, confirmation that drill depths match the accompanying sample interval with the drilling crew and the use of duplicate and lab/blank standards in the drilling programme.
	nodules) may warrant disclosure of detailed information.	• Face Sampling,, each development face / round is chip sampled perpendicular to mineralisation. The sampling intervals are domained by geological constraints (e.g. rock type, veining and alteration / sulphidation etc.). The majority of exposures within the orebody are sampled
		• For surface diamond drilling, measures taken include regular survey of drill holes, cutting of core along the orientation line where possible, and half core is submitted to an accredited laboratory. Industry standard blanks and standards are also submitted and reported by the laboratory. Drilling is completed in HQ3 or NQ2. HQ3 or NQ2 core is logged and sampled according to geology, with only selected samples assayed. Core is halved, with one side assayed, and the other half retained in core trays on site for further analysis. Samples are a maximum of 1m, with shorter intervals utilised according to geology.
		For underground diamond drilling, measures taken include regular survey of drill holes, cutting of core along the orientation line where possible, and half core is submitted to an accredited laboratory. Industry standard blanks and standards are also submitted and reported by the laboratory. Drilling is completed in LTK 60. LTK 60 core is logged and sampled according to geology, with only selected samples assayed. Core is halved, with one side assayed, and the other half retained in core trays on site for further analysis. Samples are a maximum of 1m, with shorter intervals utilised according to geology.
		Kempe Diamond drill core (LTK48 diameter) was hole core sampled ie all of the core was sampled and assayed.

Criteria	JORC Code explanation	Commentary
		No information has been recorded for historic sampling of the earth saw trenches and RAB in terms of the sample sizes and method of splitting. The lack of the information is not considered material to the estimation.
		Historical holes - RC and aircore drilling was used to obtain 1 m samples from which 2 - 3 kg was crushed and sub-split to yield 250 for pulverisation and then a 40 g aliquot for fire assay. Upper portions of deeper holes were composited to 3m sample intervals and sub-split to 1 m intervals for further assay if an anomalous composite assay result was returned. For later drilling programs all intervals were assayed.
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	RC drilling was completed with several rigs. All RC rigs used face sampling hammers with bit size of 140 – 146mm. Historical holes used a 130 mm bit size). Aircore drilling was completed by the RC rig with an aircore bit assembly
	so, by what method, etc).	HQ 3 Diamond drilling was conducted in 2014 for geotechnical and assay data.     Diamond holes were oriented using a Reflex orientation tool. Diamond holes were geologically and geotechnical logged.
		Underground face samples, were chipped from the desired domain(rock type) using an Estwing geology hammer. A number of chips were taken between knee and head height from the geological domain to obtain a representative sample. The chips were put in a pre numbered sample bags.
		Earth saw trenches were used to grade control the historic Nicolsons pit the trenches were sampled at meter intervals. No other information was recorded for the method.
		LTK60 core is drilled with an Atlas Copco U6 DH Rig With Rod Handler and wire line.
		LTK48 is drilled using a Kempe U2 Rig air rig
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</li> </ul>	All holes were logged at site by an experienced geologist. Recovery and sample quality were visually observed and recorded. Recovery for older (pre 2011) holes is unknown.
	of the samples.	All drilling was completed within rig capabilities. Surface Rigs used auxiliary air
	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.	boosters when appropriate to maintain sample quality and representivity. Where aircore drilling could not provide sufficient penetration an RC drilling set-up was used.
		There is no known relationship between recovery and grade. Diamond drilling of oxide and transitional material in previous campaigns noted high core loss in mineralised zones. No core loss was noted in fresh material. Good core recovery has generally been achieved in all sample types in the current drilling programs.

Criteria	JORC Code explanation	Commentary
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 the detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	<ul> <li>Geological logging parameters include: depth from, depth to, condition, weathering, oxidation, lithology, texture, colour, alteration style, alteration intensity, alteration mineralogy, sulphide content and composition, quartz content, veining, and general comments.</li> </ul>
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Underground development faces are mapped geologically.
	The total length and percentage of the relevant intersections logged.	<ul> <li>Geotechnical logging of diamond holes included the recording of recovery, RQD, structure type, dip, dip direction, alpha and beta angles, shape, roughness and fill material of fractures</li> </ul>
		<ul> <li>All drill chips were logged on 1 m increments, the minimum sample size. A subset of all chip samples is kept on site for reference.</li> </ul>
		<ul> <li>Diamond drilling was logged to geological boundaries and is considered quantitative. Core was photographed.</li> </ul>
		All drilling has been logged apart from diamond drill pre-collars.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	• Core samples were sawn in half with one half used for assaying and the other half retained in core trays on site for future analysis.
and sample preparation	• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	<ul> <li>RC drill chip samples were collected with either a three-tier, rotary or stationary</li> </ul>
	<ul> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	cone splitter depending on the drill rig used. Aircore drill samples were subset using a 3 tier riffle splitter. Most (> 95%) of samples are recorded as being dry.
	<ul> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	<ul> <li>Face Chips samples are nominally chipped perpendicular to mineralisation across the face from left to right, and sub-set via geological features as appropriate</li> </ul>
	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.	<ul> <li>All RC and aircore sample splitting was to 12.5 % of original sample size or 2 – 3 kg, typical of standard industry practice. Samples greater than 3 kg were split on site before submission to the laboratory.</li> </ul>
	Whether sample sizes are appropriate to the grain size of the material being sampled.	<ul> <li>For core samples, core was separated into sample intervals and separately bagged for analysis at the certified laboratory.</li> </ul>
		<ul> <li>The cyclone and splitter were cleaned every rod string and more frequently when requested by the geologist. In the case of spear sampling for re-splitting purposes, several spears through the entirety of the drill spoil bag were taken in a systematic manner to minimise bias.</li> </ul>
		<ul> <li>Core was cut under the supervision of an experienced geologist, was routinely cut on the orientation line.</li> </ul>
		<ul> <li>Duplicate samples were taken every 20 m from a second cut of the splitter in the case of a cone splitter, or from a reject split in the case of a riffle splitter. Certified standards were inserted into the sample batch at a rate of 1 in 20 throughout all drilling programmes.</li> </ul>

Criteria	JORC Code explanation	Co	mmentary
		•	Gold at Hall's Creek is fine- to medium-grained and a sample size of 2 – 3 kg is considered appropriate.
		•	Half core is considered appropriate for diamond drill samples.
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.	•	Assays are completed in a certified laboratory in Perth WA
lasoratory tests	<ul> <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,</li> </ul>		Gold assays are determined using fire assay with 40g charge and AAS finish. Other elements were assayed using acid digest with ICP-MS finish. Screen fire assays consists of screening 500g of the sample to 106 microns. The plus fraction is fire assayed for gold and a duplicate assay is performed on the minus fraction. The size fraction weights, coarse and fine fraction gold content and total gold content
	external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.		are reported. The methods used approach total mineral consumption and are typical of industry standard practice.
		•	Face samples are assayed in the site lab utilising Leachwell bottle roll methodology representing CN recoverable gold. Any samples over 2g/t Au are sent to a certified laboratory in Perth WA lab for confirmation fire assay. All underground face samples prior to March 2017 were fire assayed at an external laboratory.
		•	No geophysical logging of drilling was performed. This is not relevant to the style of mineralisation under exploration.
		•	Lab standards, blanks and repeats are included as part of the QAQC system. In addition the laboratory had its own internal QAQC comprising standards, blanks and duplicates. Sample preparation checks of pulverising at the laboratory include tests to check that the standards of 90% passing 75 micron is being achieved. Follow-up re-assaying is performed by the laboratory upon company request following review of assay data. Acceptable bias and precision is noted in results given the nature of the deposit and the level of classification. QA/QC review on previous drilling shows a negative bias with several of the external certified standards.

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> </ul>	company personnel. Some significant intersections have been resampled an assayed to validate results. Diamond drilling confirms the width of the mineralise intersections.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	The current drill program includes holes testing the current resource and twinnin existing RC holes as shown on announcement sections.
	Discuss any adjustment to assay data.	<ul> <li>All primary data is logged on paper and later entered into the database. Data visually checked for errors before being sent to an external database manager for further validation and uploaded into an offsite database. Hard copies of original drill logs are kept both onsite and in the Perth office.</li> </ul>
		No adjustments have been made to assay data.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	
		<ul> <li>The project lies in MGA 94, zone 52. Local coordinates are derived by conversion GDA94_EAST = NIC_EAST * 0.9983364 + NIC_NORTH * 0.05607807 + 315269.17 GDA94_NORTH = NIC_EAST * (-0.05607807) + NIC_NORTH * 0.9983364 7944798.421 GDA94_RL = NIC-RL + 101.799</li> </ul>
		<ul> <li>Topographic control uses DGPS collar pickups and external survey RTK data an is considered adequate for use.</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</li> </ul>	
	Reserve estimation procedure(s) and classifications applied.  • Whether sample compositing has been applied.	<ul> <li>The Competent Person is of the view that the drill spacing, geological interpretation and grade continuity of the data supports the resource categories assigned.</li> </ul>
		<ul> <li>Where used historically sample compositing to 3m occurred in holes above predicted mineralized zones. Composite samples were re-assayed in their 1 r increments if initial assay results were anomalous.</li> </ul>

Criteria	JORC Code explanation	Commentary
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>	structures strike north-south on the local grid and dip at 60°E. No bias of sampling is believed to exist through the drilling orientation
Sample security	The measures taken to ensure sample security.	The chain of custody is managed by Pantoro employees and consultants. Samples are stored on site and delivered in sealed boxes and bags to the lab in Perth. Samples are tracked during shipping. Samples are reconciled at the assay lab.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>A review of the resource was carried out by an independent consultancy firm when the project was acquired from Bulletin. No significant issues were noted.</li> <li>A review of the historic sampling techniques was carried out by an independent consultancy in relation to prior Mineral Resource estimation for Bulletin Resources in 2011/12 on behalf of the previous owners. No significant issues were noted in the 2007-2011 dataset.</li> </ul>

## SECTION 2: REPORTING OF EXPLORATION RESULTS - NICOLSONS FIND

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	• Tenements containing Mineral Resources and Ore Reserves are 100% held by Pantoro subsidiary company Halls Creek Mining Pty Ltd. This is: M80/359. Tenement transfers to HCM are yet to occur as stamp duty assessments have not been completed by the office of state revenue. The tenements lie on a pastoral lease with access and mining agreements and predate native title claims.
	<ul> <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 tenements are in good standing and no known impediments exist.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	• The deposits were discovered by prospectors in the early 1990s. After an 8,500 m RC program, Precious Metals Australia mined 23 koz at an estimated 7.7g/t Au from Nicolson's Pit in 1995/96 before ceasing the operation. Rewah mined the Wagtail and Rowdy pits (5 koz at 2.7g/t Au) in 2002/3 before Terra Gold Mines (TGM) acquired the project, carried out 12,000 m of RC drilling and produced a 100 koz Mineral Resource estimate for the Nicolsons Find deposit. GBS Gold acquired TGM and drilled 4,000 m before being placed in administration. Bulletin Resources Ltd acquired the project from administrators and conducted exploration work focused on Nicolsons and the Wagtail Deposits and completed regional exploration drilling and evaluation and completed a Mining Study in 2012 which included Mineral Resource and Ore Reserves completed by independent consultants prior to entering into a JV with PNR in 2014. Review of available reports show work to follow acceptable to standard industry practices.

Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	Gold mineralisation in the Nicolson's Find area is structurally controlled within the 400 m wide NNE trending dextral strike slip Nicolson's Find Shear Zone (NFSZ) and is hosted within folded and metamorphosed tur-biditic greywackes, felsic volcaniclastics, mafic volcanics and laminated siltstones and mudstones. This zone forms part of a regional NE-trending strike slip fault system developed across the Halls Creek Orogen (HCO).
		<ul> <li>The NFSZ comprises a NNE-trending anastomosing system of brittle-ductile shears, characterised by a predominantly dextral sense of movement. The principal shear structures trend NNE to N-S and are linked by NW, and to a lesser extent, by NE shears. Individual shears extend up to 800m along strike and overprint the earlier folding and penetrative cleavage of the HCO.</li> </ul>
		<ul> <li>The overall geometry of the system is characterized by right step-overs and bends/jogs in the shear traces, re-flecting refraction of the shears about the granite contact. Within this system, the NW-striking shears are interpreted as compressional structures and the NE-striking shears formed within extensional windows.</li> </ul>
		<ul> <li>Mineralisation is primarily focussed along NNE trending anastomosing systems of NNE-SSW, NW-SE and NE-SW oriented shears and splays. The NNE shears dip moderately to the east, while the NW set dips moderately to steeply to the NE. Both sets display variations in dip, with flattening and steepening which result in a complex pattern of shear intersections</li> </ul>
		<ul> <li>Mineralisation is strongly correlated with discontinuous quartz veining and with Fe-Si-K alteration halos developed in the wall rocks to the veins. The NE shears are associated with broad zones of silicification and thicker quartz veining (typically white, massive quartz with less fracturing and brecciation); however, these are typically poorly mineralized. The NW-trending shears are mineralized, with the lodes most likely related to high fluid pressures with over-pressuring and failure leading to vein formation. Although the NE structures formed within the same shear system, the quartz veining is of a different generation to the mineralized veins.</li> </ul>
		<ul> <li>Individual shears within the system display an increase in strain towards their centres and comprise an anastomosing shear fabric reminiscent of the pattern on a larger scale.</li> </ul>

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:	No exploration results are reported as part of this release, results relating to the deposits have been previously released.
	» 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.	
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.	<ul> <li>No exploration results are reported as part of this release, results relating to the deposit have been previously released.</li> </ul>
	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.	
Relationship between mineralisation widths and	These relationships are particularly important in the reporting of Exploration Results.	strike 0° to the local grid and dip at 60°E (i.e. having a 60° intersection angle to
intercept lengths	• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	lode structures). Deeper holes have some drill hole deviation which decreases or increases the intersection angle, but not to a significant extent.
	• If it is not known and only the down hole lengths are reported, there should be a	Face mapping data supports widths interpreted from drill holes
	clear statement to this effect (eg 'down hole length, true width not known').	<ul> <li>Downhole lengths are reported and true widths are approximately 60 – 90% of down-hole length. True widths are calculated and reported for any drill intersections &gt; 1 ppm Au.</li> </ul>
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.	No exploration Results are reported as part of this release, and therefore no diagrams are included.
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.	Results greater than 1 ppm Au have been previously reported for the recent drilling.

Criteria	JORC Code explanation	Commentary
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.	conducted in the reporting period.
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>	continue to test for the extension of the deposit which remains open.

## SECTION 3: ESTIMATION AND REPORTING OF MINERAL RESOURCES - NICOLSONS FIND

Criteria	JORC Code explanation		Cor	mmentary
Database integrity		a has not been corrupted by, for example, en its initial collection and its use for Mineral	•	Data input has been governed by lookup tables and programmed import of assay data from lab into database. The database has been checked against the original assay certificates and survey records for completeness and accuracy.
	Data validation procedures used.		•	Data was validated by the geologist after input. Data validation checks were carried out by an external database manager in liaison with Pantoro personnel. The database was further validated by external resource consultants prior to resource modelling. An extensive review of the data base was undertaken when Pantoro acquired the project, and external data review is ongoing.
Site visits	<ul> <li>Comment on any site visits under outcome of those visits.</li> </ul>	taken by the Competent Person and the	•	The Competent Person regularly visits the site and has a good appreciation of the mineralisation styles comprising the Mineral Resource.
	<ul> <li>If no site visits have been undertaker</li> </ul>	n indicate why this is the case.		
Geological interpretation	<ul> <li>Confidence in (or conversely, the und the mineral deposit.</li> </ul>	certainty of) the geological interpretation of	•	Confidence in the geological interpretation is generally proportional to the drill density. Surface mapping confirms some of the orientation data for the main mineralised structures.
	<ul> <li>Nature of the data used and of any a</li> </ul>	ssumptions made.		
	• The effect, if any, of alternative interp	pretations on Mineral Resource estimation.	•	Data used for the geological interpretation includes surface and trench mapping and drill logging data. Underground face sampling, face geology and backs
	<ul> <li>The use of geology in guiding and co</li> </ul>	ontrolling Mineral Resource estimation.	n. mapping were also utilized from close sp	mapping were also utilized from close spaced level development is also used
	<ul> <li>The factors affecting continuity both</li> </ul>	of grade and geology.		where available.
			•	In general the interpretation of the mineralised structures is clear.
			•	Geological interpretation of the data was used as a basis for the lodes which were then constrained by cut-off grades.
			•	Geology and grade continuity is constrained by quartz veining within the NFSZ and by parallel structures for the other prospects.
Dimensions		ineral Resource expressed as length (along depth below surface to the upper and lower	•	The Nicolsons deposit is approximately 800m in strike length and generally 0.5 to 2m wide. Deepest effective drilling is currently 300 metres below surface.

Criteria	JORC Code explanation	Co	mmentary
Estimation and modelling techniques	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.	A block model was generated for the Nicolson's deposit. Individual mineralised structures were domained separately. Models contain grade estimates and attributes for blocks within each domain only.	
		•	Ordinary Kriging (OK) and Inverse Distance (ID) using Surpac software was used to generate the Mineral Resource estimates.
		Variography using both Supervisor and Surpac software were completed, and the domains were modelled using a nugget and two spherical structures. For Nicolson's Main domains the maximum grade continuity ranges are between 60	
	The assumptions made regarding recovery of by-products.		m and 160m down plunge in the plane
	• Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	•	Due to the narrow vein nature of the orebody a 2D modeling method was utilised. A 2D estimation method was used. Gram meters per ton were estimated using
	<ul> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> </ul>		Ordinary Kriging (OK), Apparent wireframe width was estimated using inverse distance due to data density. Once the estimations were completed Au (gold gram per tonne) was back calculated by dividing (gold gram metres per tonne)
	Any assumptions behind modelling of selective mining units.		by Width meters.
	Any assumptions about correlation between variables.	•	Drillholes used in the global Nicolson's Mineral Resource estimate included 271
	Description of how the geological interpretation was used to control the resource estimates.		RC, 127diamond drill holes, face samples 10476 Earth saw trenches 585 and RAB, Blast hole holes for a total of 1,338m within the wireframes.
	Discussion of basis for using or not using grade cutting or capping.	•	A review of previous Mineral Resource estimates have been reviewed and the current estimate is has seen an increase in Resource across all categories as
	• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.		would be reasonably expected based on the increase in spatial data density due to increased coverage by diamond drilling and underground ore development
		•	. Reconciliation of the current Nicolson's underground Mineral Resource with mine reconciliation provides a difference of -10% in tonnes, +3% in grade and -6% in gold metal compared to the resource model; this is a global comparison.
			By products are not included in the resource estimate including silver.
		•	No deleterious elements have been estimated. Arsenic is known to be present, however metallurgical test work suggests that it does not adversely affect metallurgical recovery.
		•	Models were interpolated with a block model cell size of 10 mN x 1 mE x 10 mRL, with sub-celling for volume representation only to 0.625 mN x 0.5 mE x 1.25 mRL. Estimations used 4 passes. The 1st pass used a search radius 1/3 of the maximum range for the domain with a minimum of 8 and maximum of 16 samples The search radius was increased by 1/3 for second pass and the minimum number of samples was decreased to 4. For the 3rd pass the search radius was increased by 1/3 and the minimum number of samples was decreased to 2. The search radius was increased by 1/3 and the minimum number of samples decreased to 1 for the 4th pass at Nicolson's.

Criteria	JORC Code explanation	Cor	nmentary
Estimation and modelling techniques (continued)		•	The size of the blocks was determined by review of prior Kriging Neighbourhood Analysis in conjunction with the assumption of a relatively selective mining approach for underground operations.
		•	Gold and apparent width has been estimated.
		•	Geological interpretation constrained initial wireframes; these were oriented along trends of grade continuity and were constrained further by cut- off grades and form hard boundaries during estimation.
		•	Grade width distribution statistics were used to generate top cuts, along with the analysis of distribution graphs and disintegration analysis. Top cuts vary by domain.
		•	Model validation was conducted by review of visual comparison between composite and estimated block grades and statistical comparison against the input drill data and graphical profile (swath) plots. Checks for negative and missing grades were also undertaken.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and		Tonnage was estimated on a dry basis.
	the method of determination of the moisture content	•	The tonnages of material on stockpiles are quoted on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied	•	Cut-off grades for reporting were based on notional mining cut-off grades for open pit (0.6 g/t Au) and underground operations (2.5 g/t Au).
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.	; ; ;	An optimised pit shell was used to constrain material described as open pit with material outside this shell assigned to a potential for recovery by underground mining methods.
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.		Metallurgical test work has shown acceptable (> 96%) gold recovery using CIP technology and is consistent with calculated recoveries from the current operating period from the Nicolsons underground mine. No factors from the metallurgy have been applied to the estimates.
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 deposits are on granted mining leases with existing mining disturbance and infrastructure present.

Criteria	JORC Code explanation	Commentary
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions of 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 the adequately account for void spaces (vugs, porosity, etc.), moisture and difference 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>samples using the water displacement method and data from historical mining.</li> <li>Bulk densities vary due to ore type and are assigned separately to each domain based on this work.</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 (i.e. relative).</li> </ul>	parameters, input data, data density and geological / mining knowledge.
	confidence in tonnage/grade estimations, reliability of input data, confidence i continuity of geology and metal values, quality, quantity and distribution of th data).	view of the deposit.
	<ul> <li>Whether the result appropriately reflects the Competent Person's view of th deposit.</li> </ul>	е
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates	A review of the prior Mineral Resource estimates estimate have been the subject of independent review. No significant issues were noted.
		The current Mineral Resource has been reviewed internally and results are consistent with reconciled production results.
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	of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	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 b compared with production data, where available.	2

# SECTION 4: ESTIMATION AND REPORTING OF ORE RESERVES – NICOLSONS FIND

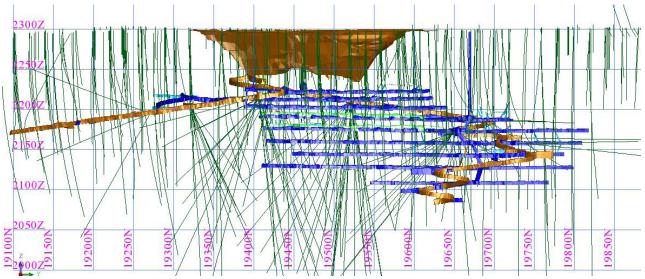
Criteria	JORC Code explanation	Coı	mmentary
Mineral Resource estimate for conversion to Ore	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.		The Ore Reserve was calculated using detailed mine designs applied to the current Mineral Resource estimate. The Mineral Resource estimate was completed
Reserves	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of the Ore Reserves.		by experienced geologists familiar with the deposits, overseen by the competent person.
		•	The Mineral Resources reported are inclusive of the Ore Reserve.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	•	The Competent Person makes regular visits to the site and is involved in preparation of the overall operations plans which are the basis for the Ore Reserve.
	• If no site visits have been undertaken indicate why this is the case.		
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	•	Actual functional mine designs were completed using the Mineral Resource as the basis for the conversion to Ore Reserves and is considered to be at a Feasibility
	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.		level of study.
		•	Cut off grades were relevant to actual costs at the operation.
		•	Modifying Factors applicable to actual results from operations are utilised.
		•	The mine is currently operating on a profitable basis and cut off grades were chosen according to actual costs.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	•	Nicolsons - The fully costed cut off grade is approximately 4.5 g/t. Incremental cut off grades for necessary activities were calculated separately, and insitu stope grades (pre dilution) were cut off at 3.5 g/t for underground mining att Nicolsons except the Johnston Lode where a cut off of 3g/t was selected based on wider ore zones resulting from RC drilling techniques.
		•	Nicolsons open pit – Pits were designed using a 2.14g/t cut-off grade. Low grade resources recovered below the cut grade have not been reported, but in practice would be report to low grade stockpiles.

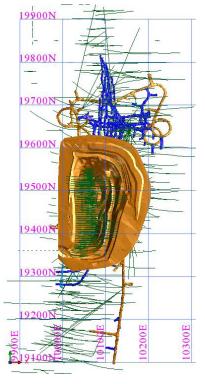
Criteria	JORC Code explanation	Com	nmentary
Mining factors or	The method and assumptions used as reported in the Pre-Feasibility or Feasibility		Nicolsons Underground
assumptions	Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	•	For Nicolsons, Detailed ore stopes and development drives were designed using Surpac software. It was assumed that stopes in the Mother Lode would suffer
	<ul> <li>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.</li> </ul>		15% dilution at 0g/t and achieve 95% recovery of diluted tonnes. It was assumed that stopes in the Hall Lode would suffer 20% dilution at 0g/t and achieve 95% recovery of diluted tonnes. Airleg stopes in all lodes were assumed to suffer 10%
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.		dilution. Ore drives were designed on the basis that drives with less than 50% ore would be resue mined with 50% dilution at 0g/t and 100% recovery. Drives not resue mined were recovered with 0% dilution and 100% recovery.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).		For Nicolsons all Ore Reserve tonnes are extracted using underground methods. Uphole benching with rock fill is the primary mining method and is considered
	The mining dilution factors used.		suitable for the type and geometry of the deposit. Geotechnical factors were
	The mining recovery factors used.		estimated by expert geotechnical consultants. In narrow ore zones, manual hand held mining methods are undertaken to maximize control of the excavation.
	Any minimum mining widths used.		Stopes are to be 30m along strike maximum. Where stopes are high grade they will
	• The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.		be filled with cemented and loose waste, depending on sequence requirements, to maximise extraction. In low grade areas, pillars are left as necessary.
	The infrastructure requirements of the selected mining methods.		All stopes were designed with a minimum width of 1.5m (before adding mining dilution). All dilution is assumed to have zero gold value.
			Mining is by owner operator using leased equipment. Actual lease rates and manning costs are utilised
		•	For development 100% of diluted ore mined is recovered. For stoping 95% of diluted ore is recovered.
			Inferred Mineral Resources are excluded from the Ore Reserve. The Ore Reserve is considered feasible without the inclusion of Inferred Mineral Resources.
			The costs used in the model include all required infrastructure including fixed plant, buildings and magazines, and mine excavations.
			Open Pits
			Mineral Resources were optimized using whittle 4D software, followed by detailed open pit design using Surpac software.
			Key parameters used in optimisation were sourced from prevailing site prices (fuel and consumables, milling cost and administration cost), contract rates (mining) and prevailing market rates for general items.
			Final overall pit slopes are 43 degrees, in line with geotechnical recommendation's by the geotechnical consultant.
		•	Mining dilution of 15% and 100% recovery of diluted ore was utilised.

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	is appropriate for the style of mineralization, and has achieved approximately
	Whether the metallurgical process is well-tested technology or novel in nature.	97% recovery during the past year.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding	
	metallurgical recovery factors applied.	The site is an operating mine with recovery of 97% a usual operating condition.  The site has undertaken ongoing testing of new ore samples, with similar results.
	Any assumptions or allowances made for deleterious elements.	achieved in the laboratory.
	<ul> <li>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.</li> </ul>	There are not any know deleterious elements
	• For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	• The 97% recovery is consistent with calculated recoveries from the current operating period from the Nicolsons underground mine
	37	Not applicable
Infrastructure	<ul> <li>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.</li> </ul>	infrastructure and services necessary to operate the mine are in place and
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study	<ul> <li>Major project capital for the project is already in place at the mine. Ongoing sustaining capital is identified in site budgets and scheduled as required.</li> </ul>
	<ul> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> </ul>	Operating costs are calculated using a combination of actual unit costs at the mine and first as appropriate. Actual labour costs are utilized in site budgets.
	<ul> <li>Allowances made for the content of deleterious elements.</li> <li>The source of exchange rates used in the study.</li> </ul>	There are no known deleterious elements and no adjustments have been made.
	<ul> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> </ul>	All costs were estimated in Australian dollars, and a gold price of \$1650/Oz was utilized.
		• Transport charges were based on actual costs during the past year.
	The allowances made for royalties payable, both Government and private.	• An allowance for production of 0.4 oz of Silver for every oz of gold was made. This is in line with silver produced since September 2015. Silver revenue is not material to overall project revenue or profit.
		The 2.5% state government royalty was included in the detailed budget. No other royalties are applicable to the project.
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.  •	
		Gold price was assumed to be A\$1,650 per ounce.
	<ul> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	• Assumed silver revenue was based on A\$20/Oz, approximately 10% below the prevailing spot price.

Criteria	JORC Code explanation	Commentary
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market</li> </ul>	Gold prices can be volatile and there are many conflicting positions on the future price of Gold. Pantoro believes that A\$1,650 per ounce is a realistic forward price forecast for gold over the life of the proposed mine. Pantoro holds a number of gold hedge positions with the average hedge price well above \$1650 per ounce.
	windows for the product.	Gold is sold on the spot market and customer/competitor analysis is unnecessary.
	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.	
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.	As the mine is in operation with a relatively short mine life and all major capital cost elements already in place, a NPV analysis was not required.
	<ul> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	Ore grade and gold price are the key sensitivities for the project.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	The Ore Reserve is located on granted mining leases and the company has an access agreement with the pastoral lease owner who is also the local aboriginal corporation.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:  Application of the organization of the Oreas Reserves:	• Pantoro is the 100% owner of the Project. Pantoro is not currently named on tenement titles due to delays in assessment of stamp duty by the Office of State Revenue. Pantoro is satisfied that it has full legal rights to 100% of the project by
	Any identified material naturally occurring risks.	virtue of the legal agreements in place with the previous owner.
	<ul> <li>The status of material legal agreements and marketing arrangements.</li> <li>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</li> </ul>	Signed transfer documents for the tenements are held by Pantoro, however transfers have not occurred as the Department of State Revenue has not completed a Stamp Duty Assessment, and Stamp Duty must be paid prior to transfer of tenements. The Acquisition Agreement protects PNR's interest in the period prior to transfer.
	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.	PNR has the required government and stakeholder approvals required to mine and process the Ore Reserve
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	The Ore has been derived from Measured and Indicated Resources. Inferred Mineral Resource has been excluded from the Ore Reserve.
	Whether the result appropriately reflects the Competent Person's view of the	Proven Ore Reserves are derived from Measured Mineral Resources.
	deposit.	Probable Ore Reserves are derived from Indicated Mineral Resources.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	• The Competent Person has been closely involved in operations and planning at the mine since commencement in 2015. The Competent Person is satisfied the Ore Reserve reflects the actual results from the operation.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Ore Reserve has been internally audited by Geologists and Mining Engineers involved with operations at the mine. No external audit or review has been undertaken.

When a managist a statement of the melative account of the melative		
<ul> <li>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.</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</li> </ul>	•	The Proven Ore Reserve is primarily based on close spaced underground development sampling and mapping on the currently developed areas of the mine  The Probable Ore Reserve is primarily based on a combination of Diamond and RC drilling. Diamond drilling and mine development indicates that ore is generally narrower, but higher grade than indicated by RC drilling. Historically this has resulted in upgrades to the Ore Reserve when actually mined, however no Modifying Factors to account for potential upgrades have been applied.  The Ore Reserve is noted to be consistent in grade and nature compared with
procedures used.		historical operations at the mine. This assessment was undertaken by way of a general review and is not based on statistical analysis.
any applied Modifying Factors that may have a material impact on Ore Reserve	•	No Modifying Factors apart from those set out in this Table 1 have been included.
viability, or for which there are remaining areas of uncertainty at the current study stage.	appropriate for the style of deposit. The designs reflect cur	Stopes were designed using sectional design on 10m spacing which is considered appropriate for the style of deposit. The designs reflect current mine planning
• 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.		practice at the mine.
•	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.  It is recognised that this may not be possible or appropriate in all circumstances.	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.  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





# **APPENDIX C – JORC CODE 2012 EDITION – TABLE 1**

## SECTION 1: SAMPLING TECHNIQUES AND DATA - WAGTAIL NORTH, WAGTAIL SOUTH AND ROWDIES

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	statement for the Wagtail South, Wagtail North and Rowdies deposits at the handheld XRF Nicolsons gold project.
	instruments, etc). These examples should not be taken as lim meaning of sampling.	<ul> <li>The Wagtail North, South and Rowdies deposits have been sampled mainly by RC with historic aircore undertaken by previous owners. Pantoro undertook initial</li> </ul>
	Include reference to measures taken to ensure sample represe appropriate calibration of any measurement tools or systems use	ntivity and the infill and grade control drilling by RC methods in 2016. Holes were sampled on 1 d. m intervals. 2 historic diamond holes were also identified relogged and assayed
	<ul> <li>Aspects of the determination of mineralisation that are Material Report.</li> </ul>	at Rowdies and Wagtail North.  RC – Rig-mounted static splitter used, with sample falling though a riffle splitter,
	<ul> <li>In cases where 'industry standard' work has been done this wo</li> </ul>	splitting the sample in 87 5/12 5 ratio sampled every 1m
	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.	• RC samples 2-4kg samples are dispatched to an external accredited laboratory where cases more nat has inherent (40g charge).
		• Visible gold is encountered and where observed during logging , Screen Fire Assays are conducted
		<ul> <li>Historical holes - RC and aircore drilling was used to obtain 1 m samples from which 2 - 3 kg was crushed and sub-split to yield 250 for pulverisation and then a 40 g aliquot for fire assay. Upper portions of deeper holes were composited to 3m sample intervals and sub-split to 1 m intervals for further assay if an anomalous composite assay result was returned. For later drilling programs all intervals were assayed.</li> </ul>
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).	ard tube, depth circulation drilling carried out using a face sampling hammer and a 140mm
		<ul> <li>Historic RC drilling was completed over a number of generations. All RC rigs between 2011 and 2014 used face sampling hammers with bit size of 140 – 146mm. Historical holes used a 130 mm bit size). Recent aircore drilling was completed by the RC rig with an aircore bit assembly</li> </ul>
		<ul> <li>3 diamond holes were drilled in 2011 as part of a previous study and intersected the ore zone in 2 holes at Rowdies and Wagtail North whuich were HQ diameter.</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</li> </ul>	quality assessments were undertaken with visual observation of split reject and lab weight samples are recorded and reviewed.
	of the samples.	Recovery for older (pre 2011) holes is unknown.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse	All drilling was completed within rig capabilities. Rigs used auxiliary air boosters when appropriate to maintain sample quality and representivity.
	material.	In post 2011 where aircore drilling could not provide sufficient penetration an RC drilling method was used.
		There is no known relationship between recovery and grade. Review of the historic diamond holes RDD1101 and WNDD1101 of oxide and transitional material in the Rowdies and Wagtail North pit showed moderate core loss in the Wagtail North ore mineralised zones.
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>Geological logging parameters include: depth from, depth to, condition, weathering, oxidation, lithology, texture, colour, alteration style, alteration intensity, alteration mineralogy, sulphide content and composition, quartz content, veining, and general comments.</li> </ul>
		All drill chips were logged on 1 m increments, the minimum sample size. A subset of all chip samples is kept on site for reference.
		diamond holes were logged to geological boundaries and is considered quantitative. Core was photographed.
		All drilling has been logged.
Sub-sampling techniques	If core, whether cut or sawn and whether quarter, half or all core taken.	RC drill chip samples were collected on 1m sample intervals with either a three- tier, rotary or stationary cone splitter depending on the drill rig used. Aircore
and sample preparation	• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	drill samples were subset using a 3 tier riffle splitter. Most (> 95%) of samples are recorded as being dry.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	• All RC and aircore sample splitting was to 12.5 % of original sample size or 2 – 3 kg, typical of standard industry practice
	• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Sample sizes are considered appropriate
	<ul> <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>	Field duplicates were taken in previous programs with results reviewed and not considered a risk to estimation of the Mineral Resource
		RC and Aircore drilling and sampling practices by previous operators were to industry standard
		The limited core samples from 2 historic holes were sawn in half with one half used for assaying and the other half retained in core trays on site for future analysis. Only the Wagtail North Diamond hole was used in this resource update with the historic Rowdies diamond hole twinning a RC hole used in the prior estimate which showed the RC hole had a negative bias.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	procedures used and whether the technique is considered partial or total	
laboratory rests	<ul> <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</li> </ul>	assays consists of screening 500g of the sample to 106 microns. The plus fraction is fire assayed for gold and a duplicate assay is performed on the minus fraction. The size fraction weights, coarse and fine fraction gold content and total gold content are reported. The methods used approach total mineral consumption
	bias) and precision have been established.	<ul> <li>No geophysical logging of drilling was performed. This is not relevant to the style of mineralisation under exploration.</li> </ul>
		<ul> <li>Blind submission of Certified Reference Materials (CRM) was undertaken as well as blank samples submitted, blanks and repeats are included as part of the QAQC system. In addition the laboratory had its own internal QAQC comprising standards, blanks and duplicates. Sample preparation checks of pulverising at the laboratory include tests to check that the standards of 90% passing 75 micron is being achieved. Follow-up re-assaying is performed by the laboratory upon company request following review of assay data. Acceptable bias and precision is noted in results given the nature of the deposit and the level of classification.</li> </ul>
		<ul> <li>Analysis of drilling undertaken in 2011 showed a negative bias with several of the external certified standards.</li> </ul>
		<ul> <li>RC and AC drill samples from previous owners is assumed to be fire assay with AAS finish. Review of historic records of received assays confirms this.</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> </ul>	<ul> <li>Significant intersections are noted in logging and checked with assay results by company personnel. Some significant intersections have been resampled and assayed to validate results.</li> </ul>
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	The 2016 drill program was an infill and grade control program and did not include any twinning of existing RC holes.
	Discuss any adjustment to assay data.	<ul> <li>All primary data is logged on paper and later entered into the SQL database. Data is visually checked for errors before being sent to an external database manager for further validation and uploaded into an offsite database. Hard copies of original drill logs are kept onsite.</li> </ul>
		No adjustments have been made to assay data.

Criteria	JORC Code explanation	Commentary
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	• Pre 2016 drilling is surveyed using DGPS with accuracy of $\pm$ 0.3m. Recent drilling is surveyed using RTK survey equipment Downhole surveys are conducted during drilling using a reflex electronic single shot cameras at collar 20 m then every 30 m thereafter. Current mine workings (open pits) are surveyed by company surveyors using RTK survey equipment. Historical holes was surveyed by prior operators to validate collar coordinates.
		<ul> <li>The project lies in MGA 94, zone 52. Local coordinates are derived by conversion: GDA94_EAST =NIC_EAST * 0.9983364 + NIC_NORTH * 0.05607807 + 315269.176 GDA94_NORTH = NIC_EAST * (-0.05607807) + NIC_NORTH * 0.9983364 + 7944798.421 GDA94_RL =NIC-RL + 101.799</li> </ul>
		Topographic control uses DGPS collar pickups and external survey RTK data and is considered adequate for use.
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>	• Drill hole spacing at Wagtail North, South and Rowdies as a result of the 2016 infill and grade control drilling has been reduced to 10 m x 10 m over the main ore zones and inside the pit designs to a depth of 60-70m below surface for the Wagtail North and South Pits. Rowdies was a shallower pit with limited additional information added outside of the pit shell in 2016. The remainder of the drilling in the deeper areas are of variable and wider spacing.
		<ul> <li>The Competent Person is of the view that the drill spacing, geological interpretation and grade continuity of the data supports the resource categories assigned.</li> </ul>
		No sample compositing was undertaken in the 2016 drill program. Historically sample compositing to 3m occurred in holes above predicted mineralised zones. Composite samples were re-assayed in their 1 m increments if initial assay results were anomalous.
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</li> </ul>	from the Nicolson Mine that localised bonanza splay structures striking at 325°
	mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	
Sample security	The measures taken to ensure sample security.	The chain of custody is managed by Pantoro employees and consultants. Samples are stored on site and delivered in sealed boxes and bags to the lab in Perth. Samples are tracked during shipping.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Review of the current data has been undertaken by Pantoro personnel as part of the current drilling programs.
		A review of the historic sampling techniques was carried out by an independent consultancy in relation to prior Mineral Resource estimation in 2011/12 on behalf of the previous owners. No significant issues were noted.

# SECTION 2: REPORTING OF EXPLORATION RESULTS - WAGTAIL NORTH, WAGTAIL SOUTH AND ROWDIES

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>	held by Pantoro subsidiary company Halls Creek Mining Pty Ltd. Tenements with Mineral Resources and Ore Reserves are: M80/503 and M80/362 Tenement transfers to HCM are yet to occur as stamp duty assessments have not been completed by the office of state revenue The tenements lie on a partoral lease
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The deposits were discovered by prospectors in the early 1990s. After an 8,500 m RC program, Precious Metals Australia mined 23 koz at an estimated 7.7g/t Au from Nicolson's Pit in 1995/96 before ceasing the operation. Rewah mined the Wagtail and Rowdy pits (5 koz at 2.7g/t Au) in 2002/3 before Terra Gold Mines (TGM) acquired the project, carried out 12,000 m of RC drilling and produced a 100 koz Mineral Resource estimate for the Nicolsons Find deposit. GBS Gold acquired TGM and drilled 4,000 m before being placed in administration. Bulletin Resources Ltd acquired the project from administrators and conducted exploration work focused on Nicolsons and the Wagtail Deposits and completed regional exploration drilling and evaluation and completed a Mining Study in 2012 prior to entering into a JV with PNR in 2014.Review of available reports show work to follow acceptable to standard industry practices.
Geology	Deposit type, geological setting and style of mineralisation.	• Gold mineralisation in the Project area is structurally controlled within the 400 m wide NNE trending dextral strike slip Nicolson's Find Shear Zone (NFSZ) and is hosted within folded and metamorphosed turbiditic greywackes, felsic volcaniclastics, mafic volcanics and laminated siltstones and mudstones. This zone forms part of a regional NE-trending strike slip fault system developed across the Halls Creek Orogen (HCO).
		• The NFSZ comprises a NNE-trending anastomosing system of brittle-ductile shears, characterised by a predominantly dextral sense of movement. The principal shear structures trend NNE to N-S and are linked by NW, and to a lesser extent, by NE shears. Individual shears extend up to 500m along strike and overprint the earlier folding and penetrative cleavage of the HCO.
		• The overall geometry of the system is characterized by right step-overs and bends/jogs in the shear traces, reflecting refraction of the shears about the granite contact, mineralisation in Wagtail North is predominantly hosted in the granite within the shear. Within this system, the NW-striking shears are interpreted as compressional structures and the NE-striking shears formed within extensional windows.

Criteria	JORC Code explanation	Commentary
		<ul> <li>Mineralisation is primarily focussed along NNE trending anastomosing systems of NNE-SSW, NW-SE and NE-SW oriented shears and splays. The NNE shears dip moderately to the east, while the NW set dips moderately to steeply to the NE. Both sets display variations in dip, with flattening and steepening which result in a complex pattern of shear intersections</li> </ul>
		• Mineralisation is strongly correlated with discontinuous quartz veining and with Fe-Si-K alteration halos developed in the wall rocks to the veins. The NE shears are associated with broad zones of silicification and thicker quartz veining (typically white, massive quartz with less fracturing and brecciation); however, these are typically poorly mineralized. The NW-trending shears are mineralized and often host bonanza gold grades with associated increases in base metal content, with the lodes most likely related to high fluid pressures with over-pressuring and failure leading to vein formation. Although the NE structures formed within the same shear system, the quartz veining is of a different generation to the mineralized veins.
		<ul> <li>Individual shears within the system display an increase in strain towards their centres and comprise an anastomosing shear fabric reminiscent of the pattern on a larger scale.</li> </ul>
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.	
	<ul> <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>	
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> </ul>	
	<ul> <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>	
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	

Criteria	JORC Code explanation	Commentary
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> </ul>	strike 0° to the local grid and dip at 60°E (i.e. having a 60° intersection angle to lode structures). Deeper holes have some drillhole deviation which decreases or increases the intersection angle, but not to a significant extent.
	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').	<ul> <li>Downhole lengths are reported and true widths are approximately 60 – 90% of down-hole length. True widths are calculated and reported for any drill intersections &gt; 1 ppm Au.</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>	diagrams are included.
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>	
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.	conducted in the reporting period.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Mining has commenced and processing of this ore has produced gold at levels above local grade estimates.
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

# SECTION 3: ESTIMATION AND REPORTING OF MINERAL RESOURCES - WAGTAIL NORTH, WAGTAIL SOUTH AND ROWDIES

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 Minera Resource estimation purposes.</li> </ul>	
	Data validation procedures used.	<ul> <li>Data was validated by the geologist after input. Data validation checks were carried out by an external database manager in liaison with Pantoro personnel. An extensive review of the data base was undertaken when Pantoro acquired the project, and external data review is ongoing.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> </ul>	The Competent Person conducts regular visits to the site and has a good appreciation of the mineralisation styles comprising the Mineral Resource.
	If no site visits have been undertaken indicate why this is the case.	

Criteria	JORC Code explanation	Commentary
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	increased drill density additional to previous Mineral Resource estimate. Surface
	Nature of the data used and of any assumptions made.	and historic pit floor mapping confirms the orientation data for the main mineralised structures.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Interpreted wireframes utilised to constrain the Mineral Resource estimate
	The use of geology in guiding and controlling Mineral Resource estimation.	are based on mineralised drilling intersections and geological constraints. All
	The factors affecting continuity both of grade and geology.	Wireframes have been conducted to a 0.3 ppm Au cut –off grade for inclusion based on the above parameters.
		• The mineralisation is consistent with narrow high grade gold lodes and drill intercepts clearly define mineralisation and lode position. In general the interpretation of the mineralised structures is clear, however short strike splay structure are found to be present in the course of mining and can contain localised bonanza grades.
		<ul> <li>In general the controls on mineralisation and grade continuity is constrained by quartz veining within the NFSZ and based on learning outcomes from Nicolsons Find underground development are relatively straightforward and as such no alternate interpretations have been considered.</li> </ul>
		• Geological interpretation of the data was used as a basis for the wireframes for individual lodes which were then constrained by cut-off grades.
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 Rowdies and Wagtail deposits occur over a strike length of approximately 900m. Mineralised widths in plan vary between 1m and 4m and mineralisation extends from surface to 130metres below surface and has not been closed off.

Criteria	JORC Code explanation	Commentary
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.	Separate block models were generated for Wagtail North and Wagtail South. Individual mineralised structures were domained separately. Models contain grade estimates and attributes for blocks within each domain only.
		<ul> <li>Rowdies was only a shallow pit with the bulk of the 640 metres of drilling focused on grade control within this shell, the 2012 Optiro Model as adopted in the May</li> </ul>
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	2016 Mineral Resource statement was simply depleted as per the as mined Rowdies pit as at April 30 2017.
	of such data.  The assumptions made regarding recovery of by-products.	Ordinary Kriging (OK) using Surpac software was used to generate the resource estimates. Variography of gold grades from drilling data provides a maximum
	• Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	grade continuity of 22m down plunge, 12 m perpendicular to plunge and 4, across plane for Wagtail South. Rowdies and Wagtail North have a strike-dip control on mineralisation. Wagtail North parameters were 23 m along strike, 12 m down-dip
	• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	and 4 m across the plane. Rowdies grade continuity was 60 m down-dip, 50 m along strike and 4 m across the plane.
	Any assumptions behind modelling of selective mining units.	Previous estimates For Wagtail North and Wagtail South generated by consultants
	Any assumptions about correlation between variables.	have been reviewed and compares reasonably relative to the increased data density and mining depletion.
	<ul> <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>	Production figures from Rowdies and Wagtail Pits based on current mining have been reconciled to the Mineral Resource estimate. Current estimates on the whole
		<ul> <li>are consistently lower than reconciled production from the open pit mines.</li> <li>By products are not included in the Mineral Resource estimate.</li> </ul>
		<ul> <li>No deleterious elements have been estimated, however metallurgical test work</li> </ul>
		and operating recoveries support good metallurgical recovery.
		• The block models used primary block sizes of 5m Y X 2.5m X X 2.5m Z on Wagtail South and Rowdies deposits. Primary block sizes of 2.5m Y X 1.25m X X 1.25m Z were used on Wagtail North. Sub-celling was employed at domain boundaries to allow adequate representation of the domain geometry and volume.
		Block estimation used 3 passes at Wagtail North and Wagtail South and 3 passes for the Rowdies model. At Wagtail North, the 1st pass used a search radius of 122 m with a minimum of 3 and maximum of 15 samples. Wagtail South estimation used a 122m radius for the 1st pass with a minimum of 2 and maximum of 20 samples. The search radius was increased by 2 for second pass and the minimum number of samples was decreased to 1 for the 3rd pass.
		<ul> <li>Drillholes used in the Mineral Resource estimate update for Wagtail North included in addition to data used in prior estimates an additional 38 RC holes for a total of 783m of composites within the resource wireframes and Wagtail South included 53 RC holes for a total of 887 metres of composites within the resource wireframes.</li> </ul>

Criteria	JORC Code explanation	Con	nmentary
Estimation and modelling techniques (continued)			Only gold has been estimated. Drill hole data was composited utilizing domain codes with all data composited to 1m. The Wireframes of the mineralised domains utilised as hard boundaries for the process of estimation.
		•	Block size was determined primarily with the assumption of a relatively selective mining approach for both open pit and underground operations.
		•	Geological interpretation forms the basis for domain wireframes; these were oriented along trends of grade continuity and form hard boundaries during estimation.
			Grade distribution statistics were used to generate top cuts by domain, along with the analysis of distribution graphs and disintegration analysis in order to limit the influence of outliers in the estimate.
			Model validation was conducted by review of visual comparison between composite and estimated block grades and statistical comparison against the input drill data and graphical profile (swath) plots. Checks for negative and missing grades were also undertaken.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content		Tonnage was estimated on a dry basis.
		•	The tonnages of material on stockpiles are quoted on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied	•	Cut-off grades for reporting were based on notional mining cut-off grades for open pit (0.6 g/t $$ Au)
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>	5	Due to the high grade nature of the mineralisation, a minimum downhole intersection width of 1m is considered reasonable to support with external/edge dilution minimum mining widths for the selective open pit and underground operations respectively and currently being employed.
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.		Metallurgical test work has shown acceptable (> 97%) gold recovery using CIP technology and is confirmed with calculated recoveries from the current processing of the material from the Mineral Resource. No metallurgical factors from the have been applied to the estimates as this will be addressed during the application of modifying factors during Ore Reserve conversion.

Criteria	JORC Code explanation	Commentary
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.	and infrastructure present to support the reasonable prospects for economic extraction.
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions.</li> <li>If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> </ul>	
	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.	
		Transitional All: 2.4t/
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• Fresh Rowdies and Wagtail North: 2.9t/m³
		Fresh Wagtail South: 2.7t/m³
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	parameters, input data and geological / mining knowledge and depleted to the
	Whether appropriate account has been taken of all relevant factors (i.e. 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).	This approach considers all relevant factors and reflects the Competent Person's view of the deposit
	Whether the result appropriately reflects the Competent Person's view of the deposit.	
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates	A review of previous estimates have been the subject of independent review. No significant issues were noted.
		• The current Mineral Resources has been reviewed internally and results are considered acceptable with reconciled production results.

Criteria	JORC Code explanation	Commentary
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>of the Mineral Resource as per the guidelines of the 2012 JORC Code.</li> <li>The statement reflects a global estimate of tonnes and grade</li> <li>The resource model produced a 59% oz Au undercall against recorded production for the Wagtail North open pit. This amount mined well above the estimate is explained by short range high grade structures not identified in close spaced drilling, and is consistent with the initial mill reconciliation results returned from the Nicolsons Find UG where the Mineral Resource was informed predominantly by RC drilling. The resource model produced a 13% oz Au under call against recorded production for the Wagtail South open pit. This amount is considered to be within acceptable limits for the classification of the resource. The resource</li> </ul>

# SECTION 4: ESTIMATION AND REPORTING OF ORE RESERVES - WAGTAIL NORTH, WAGTAIL SOUTH AND ROWDIES

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul> <li>The Ore Reserve was calculated using detailed mine designs applied to the current Mineral Resource estimate. The Mineral Resource estimate was completed by experienced geologists familiar with the deposits, overseen by the competent person.</li> <li>The Mineral Resources reported are inclusive of the Ore Reserve.</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 makes regular visits to the site and is involved in preparation of the overall operations plans which are the basis for the Ore Reserve.
Study status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>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.</li> </ul>	<ul> <li>to be a Feasibility level of study. Modification to conversion is undertaken during mining as necessary.</li> <li>The mine planning process utilises functional mine designs and prevailing site operating and capital costs for formulation of the conversion</li> </ul>
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Rowdies/Wagtail – Pits were designed were designed using a 2.14 g/t cut-off. Low grade material recovered above 1.5 g/t is reported as will report to low grade surface stockpiles.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibil 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).	detailed open pit design using Geovia Surpac software.
	<ul> <li>The choice, nature and appropriateness of the selected mining method(s) at other mining parameters including associated design issues such as pre-str access, etc.</li> </ul>	
	<ul> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, sto sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and sto</li> </ul>	Mining dilution of 15% was utilised
	optimisation (if appropriate).  The mining dilution factors used.	<ul> <li>Mining recovery of 100% of diluted ore was utilised.</li> <li>No inferred Mineral Resource was included in the mining studies.</li> </ul>
	<ul> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> </ul>	Current site infrastructure supports the Open pit mining methods currently being used.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	es
	The infrastructure requirements of the selected mining methods.	
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process the style of mineralisation.	• The existing processing plant at Nicolsons uses a conventional CIP circuit, which is appropriate for the style of mineralisation.
	Whether the metallurgical process is well-tested technology or novel in nature	• The CIP process is the conventional gold processing method in Western Australia and is well tested and proven.
	<ul> <li>The nature, amount and representativeness of metallurgical test work undertake the nature of the metallurgical domaining applied and the correspondi metallurgical recovery factors applied.</li> </ul>	<ul> <li>The plant has now been operating for 20 months and prior metallurgical test work has been achieved consistently since the inclusion of the open pit material</li> </ul>
	Any assumptions or allowances made for deleterious elements.	supporting the metallurgical recovery factor
	The existence of any bulk sample or pilot scale test work and the degree to whi such samples are considered representative of the orebody as a whole.	• The 97% recovery is consistent with calculated recoveries from the current
	<ul> <li>For minerals that are defined by a specification, has the ore reserve estimation</li> <li>been based on the appropriate mineralogy to meet the specifications?</li> </ul>	operating period from the Nicolsons operations  Not applicable
Infrastructure	<ul> <li>The existence of appropriate infrastructure: availability of land for pla development, power, water, transportation (particularly for bulk commodities labour, accommodation; or the ease with which the infrastructure can provided, or accessed.</li> </ul>	s),

Criteria	JORC Code explanation	Commentary
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study</li> <li>The methodology used to estimate operating costs.</li> </ul>	<ul> <li>Capital costs were estimated by identifying capital equipment items and estimating labour and equipment requirements for installation of capital equipment.</li> </ul>
	Allowances made for the content of deleterious elements.	• Operating costs are calculated from current operating costs realized on a going concern basis
	The source of exchange rates used in the study.	There are no known deleterious elements and no adjustments have been made.
	Derivation of transportation charges.	• All costs were estimated in Australian dollars, and a gold price of \$1400/oz was
	• The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	<ul><li>utilized.</li><li>Transport charges were based on actual operating cost on a going concern basis.</li></ul>
	The allowances made for royalties payable, both Government and private.	<ul> <li>Credit elements including silver were not attributed any value in the calculation and it is assumed that the silver credits received will cover refining charges.</li> </ul>
		• A 2.5% state government royalty was assumed.
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head	Grade is scheduled monthly in a detailed mining schedule.
	grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	• Gold price was assumed to be A\$1,400 per ounce.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	No revenue from silver or any metals other than gold was assumed.
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.	<ul> <li>Gold prices can be volatile and there are many conflicting positions on the future price of Gold. Pantoro budgets using a \$1650 per ounce gold price and the \$1400 per ounce optimisation is a realistic forward price forecast with suitable margins</li> </ul>
	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.	
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.	<ul> <li>Due to the short life of the proposed mine, inflation was not applied to costs or gold price.</li> </ul>
	• NPV ranges and sensitivity to variations in the significant assumptions and inputs.	
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	<ul> <li>The project is on granted mining leases and the company has an access agreement with the local aboriginal corporation who is also the pastoral lease owner.</li> </ul>

Criteria	JORC Code explanation	Commentary
Other	<ul> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally occurring risks.</li> </ul>	<ul> <li>Pantoro is the 100% owner of the Project. Pantoro is not currently named on tenement titles due to delays in assessment of stamp duty by the Office of State Revenue. Pantoro is satisfied that it has full legal rights to 100% of the project by</li> </ul>
	<ul> <li>The status of material legal agreements and marketing arrangements.</li> <li>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.</li> </ul>	<ul> <li>virtue of the legal agreements in place with the previous owner.</li> <li>Signed transfer documents for the tenements are held by Pantoro, however transfers have not occurred as the Department of State Revenue has not completed a Stamp Duty Assessment, and Stamp Duty must be paid prior to transfer of tenements. The Acquisition Agreement protects PNR's interest in the period prior to transfer.</li> </ul>
		<ul> <li>PNR has the required government and stakeholder approvals required to mine and process the Ore Reserve</li> </ul>
		<ul> <li>All regulatory approvals are in place for the mining of the Rowdies and Wagtail pits.</li> </ul>
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	<ul> <li>The Ore Reserve has been derived from Indicated Mineral Resources. Inferred Mineral Resource has been excluded from the Ore Reserve.</li> </ul>
	Whether the result appropriately reflects the Competent Person's view of the deposit.	• This approach considers all relevant factors and 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).	No Measured Mineral Resource is classified in the Mineral Resource estimate
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	• The Ore Reserve has been reviewed using internal processes. No external audits
Discussion of relative	<ul> <li>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.</li> </ul>	The Ore Reserve has been derived from Indicated Mineral Resources.
accuracy/ confidence		• Inferred Mineral Resource has been excluded from the Ore Reserve.
		This approach considers all relevant factors and reflects the Competent Person's view of the deposit
	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.	
	<ul> <li>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.</li> </ul>	
	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.	

