



ASX Announcement  
30 May 2016

## Mineral Resource and Ore Reserve Upgrade Demonstrates Strong Growth Potential at Nicolson's

Pantoro Limited (ASX:PNR) (**Pantoro**) is pleased to advise that an initial update to the Nicolson's Mine Mineral Resource and Ore Reserve estimates has been completed following completion of development of the first ore levels within the mine.

### Highlights

- The mined area at Nicolson's between the 2220 level and 2170 level has been remodelled, and integrated with the Mineral Resource and Ore Reserve estimate for Nicolson's.
- The remodelled zone has returned a **Mineral Resource which is a 91% increase to the original Mineral Resource and a 87% increase to the original Ore Reserve**.
- The remodelled zone combined with global Nicolson's Ore Reserve results in a **Proven and Probable Ore Reserve of 96,827 ounces** after mining depletion, compared with a pre-mining Ore Reserve of 86,362 ounces.
- The Ore Reserve grade within the remodelled zone has **increased from 6.17 g/t to 9.81 g/t**.
- The Halls Creek Project Ore Reserve (inclusive of Rowdies and Wagtail pits) now stands at **109,220 ounces after mining depletion, a 32% increase** on the original Halls Creek Project Ore Reserve.
- The very high grade splay vein discovered during mine development has continued to strengthen at depth, with continued increase in grade and growth in strike length on the recently developed 2170 level.
- Strong potential exists for continued Mineral Resource and Ore Reserve upgrades as mining and underground diamond drilling progresses into the deeper levels of mine and the currently undeveloped Northern & Southern zones.

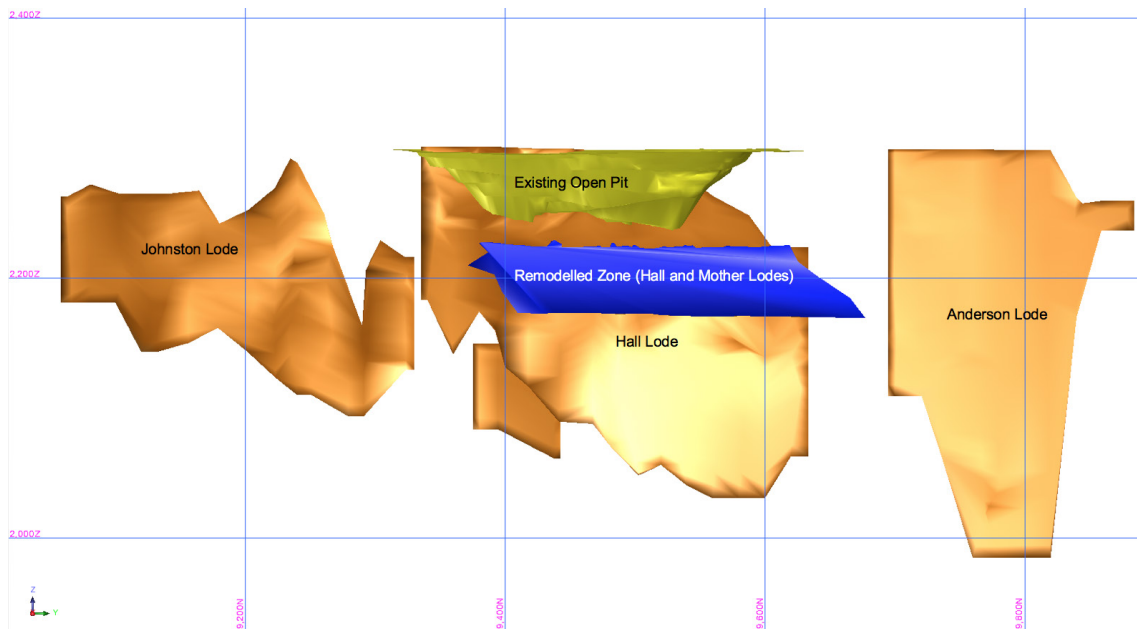


Figure 1 – Diagram showing global Mineral Resource shapes (brown) and the re-modelled zone (blue)

**Pantoro Limited**  
ABN 30 003 207 467

t: 08 9215 6005 | f: 08 9220 5757 | e: admin@pantoro.com.au | w: www.pantoro.com.au  
PO Box 1353 West Perth WA 6872 | Level 3, 18-32 Parliament Place West Perth WA 6005

## Mineral Resource Update

The updated Mineral Resource estimate is based on ore development completed to date treated as a sub-set to the global Nicolson's Mineral Resource. Development within the Mineral Resource has allowed the use of mill reconciled face sampling data to generate an updated Mineral Resource estimate.

As understanding of the ore system has increased with development, the original Mineral Resource nomenclature has been updated. Lodes within the existing Mineral Resource include:

- Hall Lode (previously Main Zone).
- Mother Lode (previously Splay Vein).
- Anderson Lode (previously Northern Zone).
- Johnston Lode (previously Southern Zone).

To date, ore development has only been undertaken within the Hall and Mother Lodes and remodelling has been restricted to those areas only.

As described in previous ASX releases by Pantoro (refer to December 2015 and March 2016 Quarterly Activities Reports), mining of the deposit to date has consistently returned a significant over-call to the current Ore Reserve. Higher grades, and longer economically mineralised strike lengths than were expected by the pre-mining Mineral Resource have been encountered. The high grade Mother Lode which was discovered during development has added significantly to the volume and grade of the known ore system.

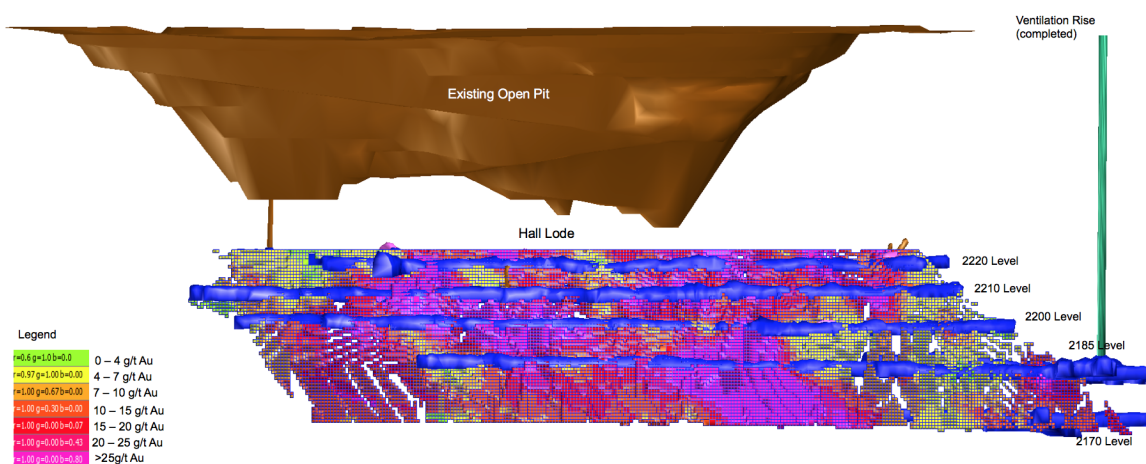


Figure 2 – Remodelled zone block model showing Hall Lode only

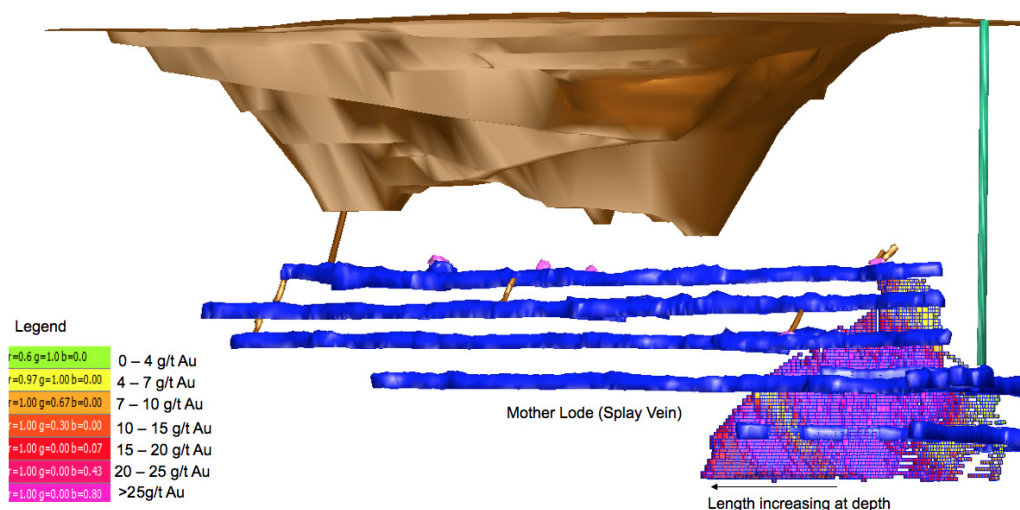


Figure 3 – High grade "Mother Lode" not previously included in Mineral Resource estimates

The remodelled pre-mining Hall Lode Mineral Resource is **56,976 tonnes @ 17.08 g/t for 31,295 ounces** (excluding depletion), compared with the previously estimated pre-mining Mineral Resource of 104,545 tonnes @ 6.71 g/t for 22,554 ounces. The Mother Lode, which was not included within the previous Mineral Resource, returned an estimate of **19,201 tonnes @ 19.24 g/t for 11,875 ounces**.

The combined remodelled pre-mining Hall and Mother Lode estimate is 43,170 ounces (excluding depletion), representing a 91.4% increase in contained gold when compared with the previous model. Mining depletion to date is 12,159 ounces.

The revised global Mineral Resource estimate combining the remodelled zone and the remainder of the global Mineral Resource is set out in Table 1 below.

	Measured			Indicated			Inferred			Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
<b>Undepleted Resource</b>	<b>66,556</b>	<b>17.67</b>	<b>37,819</b>	<b>478,686</b>	<b>6.73</b>	<b>103,593</b>	<b>195,042</b>	<b>6.75</b>	<b>42,328</b>	<b>740,284</b>	<b>7.72</b>	<b>183,740</b>
Depletion	20,370	18.57	12,159	-	-	-	-	-	-	-	-	-
<b>May 2016 Resource</b>	<b>46,186</b>	<b>17.28</b>	<b>25,660</b>	<b>478,686</b>	<b>6.73</b>	<b>103,593</b>	<b>195,042</b>	<b>6.75</b>	<b>42,328</b>	<b>719,914</b>	<b>7.41</b>	<b>171,581</b>

Table 1 – Nicolson's Mineral Resource

The full revised Mineral Resource estimate and a detailed analysis of the changes is detailed in Appendix 1.

### Ore Reserve Update

Development of the upper levels of the Nicolson's Mine has delineated a narrower, but much higher grade vein system than the pre-mining model (which was based primarily on RC drilling). The high grade ore has been remarkably consistent along the strike of the ore zone mined to date with previously excluded lower grade zones now known to be narrow, high grade zones which are able to be mined economically.

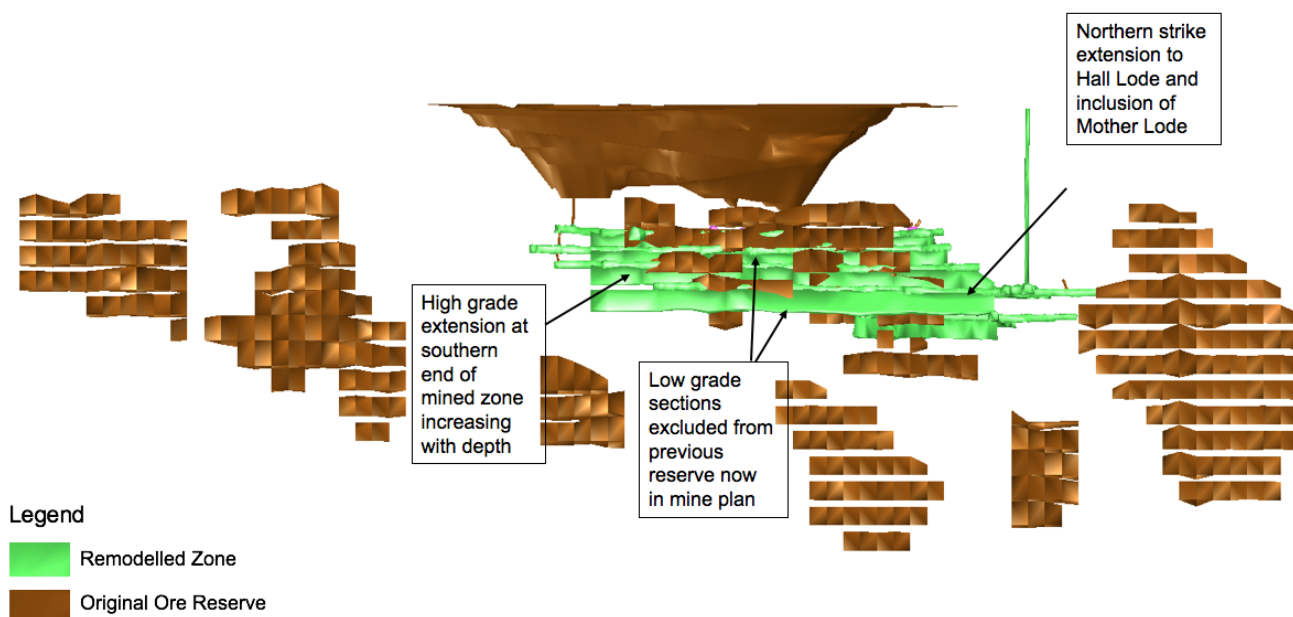


Figure 4 – Diagram showing the re-modelled reserve (green) compared with the pre-mining reserve (brown)

The proven Ore Reserve in the remodelled area is 91,454 tonnes @ 10.40 g/t for 35,807 ounces after depletion (depletion to date is approximately 12,159 ounces).

The Ore Reserve within the remodelled zone including depletion is 42,720 ounces, representing an increase of 87% compared to the pre-mining model of 25,618 ounces. The revised Mineral Resource and Ore Reserve model reconciles well when compared with production from the mine to date.

The revised global Ore Reserve (including mining depletion) for Nicolsons Mine which is the combination of the remodelled zone, and the remainder of the global Ore Reserve is set out in Table 2 below.

	Proven			Probable			Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
<b>Depleted Reserve</b>	<b>93,864</b>	<b>10.38</b>	<b>31,327</b>	<b>325,033</b>	<b>6.24</b>	<b>65,225</b>	<b>418,897</b>	<b>7.17</b>	<b>96,551</b>

*Table 2 – Nicolsons Ore Reserve including mine depletion*

The full revised Ore Reserve estimate and detailed analysis of the changes is detailed in Appendix 1.

The Halls Creek Project Ore Reserve, inclusive of the Rowdies and Wagtail open pit Ore Reserves (refer ASX announcement 11/5/2016) is set out in Table 3 below.

	Proven			Probable			Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
Nicolsons	93,864	10.38	31,327	325,033	6.24	65,225	418,897	7.17	96,551
Rowdies/Wagtail	-	-	-	96,500	5.55	17,219	96,500	5.55	17,219
Total Mine Reserve	93,864	10.38	31,327	421,533	6.08	82,444	515,397	6.87	113,771
<b>Total Reserve (inc Metallurgical Recovery)</b>	<b>93,864</b>	<b>9.97</b>	<b>30,074</b>	<b>421,533</b>	<b>5.84</b>	<b>79,146</b>	<b>515,397</b>	<b>6.59</b>	<b>109,220</b>

*Table 3 – Halls Creek Project Ore Reserve*

The Halls Creek Project Ore Reserve (including metallurgical recovery) has increased from 82,908 ounces to 109,220 ounces after depletion, representing a 32% increase compared with the pre-mining Ore Reserve.

Commenting on the Mineral Resource and Ore Reserve upgrades at Nicolsons, managing director Paul Cmrlec said:

“While the increased Mineral Resources and Ore Reserves within the developed zone of the mine were expected given the large overcalls experienced to date, it is pleasing to be in a position to quantify the magnitude of the increase which supports our view of the growth potential that the project may deliver.

The high grade Mother Lode has consistently delivered level on level improvements in volume and grade since discovery, and remains open beneath the current development. Extensions to the Mother Lode will be a priority drill target as suitable drilling platforms become available during the coming months.

Diamond drilling is ongoing and we currently await assay results from the well-developed quartz veins encountered in initial holes. We will continue to update Mineral Resource and Ore Reserve estimates as sufficient new information is available. We have consistently stated that Nicolsons mine, and the Halls Creek Project holds great potential for growth, and we see this initial upgrade as being only the beginning.”

Ends.

## Enquiries

Paul Cmrlec - Managing Director | Ph: +61 8 9215 6005 | Email: admin@pantoro.com.au

### Halls Creek Tenements – Mineral Reporting

The information in this report that relates to exploration and mineral resources is based on information compiled by Mr. Scott Huffadine (B.Sc. (Hons)) MAusIMM who is a full time employee of Pantoro Limited. Mr. Huffadine has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a competent person as described by the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Mr. Huffadine consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

### Halls Creek Tenements – Reserve Reporting

The information in this report that relates to Mineral Reserves is based on information compiled by Mr. Paul Cmrlec (B. Eng (Mining) (Hons)), MAusIMM who is the Managing Director of Pacific Niugini Limited. Mr. Cmrlec has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a competent person as described by the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Mr. Cmrlec consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

## Appendix 1 – SUMMARY OF CHANGES TO THE MINERAL RESOURCES AND ORE RESERVES COMPARING MAY 2016 AND NOVEMBER 2014 ESTIMATES FOR THE HALLS CREEK PROJECT

### Mineral Resource

The May 2016 Nicolson's Mineral Resource estimate of 719,914 tonnes at 7.41 g/t Au for 171,581 ounces represents an increase of 8,458 ounces net of mining depletion compared to the November 2014 estimate of 768,652 tonnes at 6.60 g/t gold for 162,123 ounces. The estimate now includes a measured Mineral Resource component.

Changes include:

- The recently identified Mother Lode which was not identified in the initial pre-mining Mineral Resource in November 2014.
- Remodelling of the Mineral Resource accessed by mine development which has been the subject of close spaced face sampling, coupled with face and back mapping over the first five levels of the underground mine within the Hall and Mother Lodes.
- Mining depletion of 12,159 ounces.

The total Halls Creek Project Resource is set out in Table 1.

	Measured			Indicated			Inferred			Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
Nicolson's	46,186	17.28	25,660	478,686	6.73	103,593	195,042	6.75	42,328	719,914	7.41	171,581
Rowdies	-	-	-	52,000	4.4	7,000	13,000	4.7	2,000	65,000	4.31	9,000
Wagtail	-	-	-	236,000	4.6	3,5000	17,000	3.4	2,000	253,000	4.55	37,000
<b>Total</b>	<b>46,186</b>	<b>17.28</b>	<b>25,660</b>	<b>766,686</b>	<b>5.91</b>	<b>145,593</b>	<b>225,042</b>	<b>6.40</b>	<b>46,328</b>	<b>1,037,914</b>	<b>6.52</b>	<b>217,581</b>

Table 1 - Halls Creek Project Mineral Resource

### Ore Reserve

The May 2016 Nicolson's Ore Reserve estimate is 418,897 tonnes at 7.17 g/t Au for 96,551 ounces. This is an increase of 10,189 ounces after mining depletion compared to November 2014 Ore Reserve estimate of 435,455 tonnes @ 6.17 g/t gold for 86,362 ounces.

Changes include:

- Additions are driven by the continuity and extension of the mineralised strike within Hall Lode, as defined by the current development over the first five levels of the mine. Economic mineralisation has been defined in sections of the Hall lode which were previously considered to be below mining cut-off.
- Addition of Ore Reserves within in the Mother Lode not identified prior to development.
- Addition of the Rowdies and Wagtail open pit Ore Reserves as announced on the 11 May 2016.
- Mining depletion of 12,159 ounces.

The total Halls Creek Project reserve is set out in Table 2 below.

	Proven			Probable			Total		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
Nicolson's	93,864	10.38	31,327	325,033	6.24	65,225	418,897	7.17	96,551
Rowdies/Wagtail	-	-	-	96,500	5.55	17,219	96,500	5.55	17,219
Total Mine Reserve	93,864	10.38	31,327	421,533	6.08	82,444	515,397	6.87	113,771
<b>Total Reserve (inc Metallurgical Recovery)</b>	<b>93,864</b>	<b>9.97</b>	<b>30,074</b>	<b>421,533</b>	<b>5.84</b>	<b>79,146</b>	<b>515,397</b>	<b>6.59</b>	<b>109,220</b>

Table 2 - Halls Creek Project Ore Reserve



# APPENDIX B – JORC 2012 – TABLE 1 – HALLS CREEK

## SECTION 1: SAMPLING TECHNIQUES AND DATA – HALLS CREEK

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>The Nicolson's deposit has been sampled predominantly by RC and minor historical RAB about the Nicolson's open pit area. The Wagtails and Rowdies deposits were sampled mainly by RC with follow-up aircore. Holes were sampled on 1 m increments, or 3 m increments above the known mineralisation. Anomalous intercepts from the 3 m increments were re-split into 3 1 m increments.</li> <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> <li>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.</li> <li>Face Sampling,, each development face / round is chip sampled perpendicular to mineralisation. The sampling intervals are dominated by geological constraints (e.g. rock type, veining and alteration / sulphidation etc.). The majority of exposures within the orebody are sampled</li> <li>For 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. HQ3 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.</li> <li>Rock chip samples are collected by hand using a rock hammer with multiple pieces of rock collected at one location for each sample.</li> <li>Rock chip sample locations are recorded using a handheld GPS. Sample rock types were recorded where the rock was identifiable.</li> <li>Rock chip samples are collected directly from the rock. Samples taken were dry.</li> <li>Rock chip and float chip samples are inherently variable and do not accurately represent the average grade of the surrounding rock. Rock chip and float samples are used as a non-quantitative guide for assessing prospectivity hence are regarded as suitable for this purpose.</li> <li>Float rock samples are taken from the surface and not from in-situ outcrop.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>• Float rock sample locations are picked up by hand-held GPS and sample description take to be reviewed in conjunction with other geological data. This includes vein type and host/country rock.</li> <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 programmes all intervals were assayed</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>• 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. RAB drilling (20 holes only in the Nicolson's pit area) is historical and details are unknown.</li> <li>• HQ 3 Diamond drilling was conducted for geotechnical and assay data. Holes from the 2014 diamond drilling program do not form part of the current resource estimate. Diamond holes were oriented using a Reflex orientation tool. Diamond holes were geologically and geotechnically logged.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>• Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>• Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>• Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• All drilling was completed within rig capabilities. Rigs used auxiliary air boosters when appropriate to maintain sample quality and representivity. Where aircore drilling could not provide sufficient penetration an RC drilling set-up was used.</li> <li>• 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 program.</li> </ul>

Criteria	JORC Code explanation	Commentary
Logging	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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> <li>Underground development faces are mapped geologically.</li> <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> <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> <li>Diamond drilling was logged to geological boundaries and is considered quantitative. Core was photographed.</li> <li>All drilling has been logged apart from diamond drill pre-collars.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>RC drill chip samples were collected with either a three-tier, rotary or stationary cone splitter depending on the drill rig used. Aircore drill samples were subset using a 3 tier riffle splitter. Most (&gt; 95%) of samples are recorded as being dry.</li> <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> <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> <li>For core samples, core was separated into sample intervals and separately bagged for analysis at the certified laboratory.</li> <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> <li>Core was cut under the supervision of an experienced geologist, was routinely cut on the orientation line.</li> <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> <li>Gold at Hall's Creek is fine- to medium-grained and a sample size of 2 – 3 kg is considered appropriate.</li> <li>Half core is considered appropriate for diamond drill samples.</li> </ul>



Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Assays are completed in a certified laboratory in Perth WA, and at Pine Creek NT. Gold assays are determined using fire assay with 40g charge and AAS finish. Other elements were assayed using acid digest with ICP-MS finish. The methods used approach total mineral consumption and are typical of industry standard practice.</li> <li>No geophysical logging of drilling was performed. This is not relevant to the style of mineralisation under exploration.</li> <li>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. Early drilling shows a pronounced negative bias with several of the external certified standards.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>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. Diamond drilling confirms the width of the mineralised intersections.</li> <li>The current drill program includes holes testing the current resource and twinning existing RC holes as shown on announcement sections.</li> <li>All primary data is logged on paper and later entered into the 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 both onsite and in the Perth office.</li> <li>No adjustments have been made to assay data.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>Drilling is surveyed using DGPS with accuracy of <math>\pm 0.3</math>m. Downhole surveys are conducted during drilling using single shot cameras at 10 m then every 30 m thereafter. Later drilling was downhole surveyed using a Reflex survey tool. Mine workings (open pits) were surveyed by external surveyors using RTK survey equipment. A subset of historical holes was surveyed to validate collar coordinates.</li> <li>The project lies in MGA 94, zone 52. Local coordinates are derived by conversion:  <math>GDA94\_EAST = NIC\_EAST * 0.9983364 + NIC\_NORTH * 0.05607807 + 315269.176</math>  <math>GDA94\_NORTH = NIC\_EAST * (-0.05607807) + NIC\_NORTH * 0.9983364 + 7944798.421</math>  <math>GDA94\_RL = NIC\_RL + 101.799</math></li> <li>Topographic control uses DGPS collar pickups and external survey RTK data and is considered adequate for use.</li> </ul>

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Drill hole spacing at Nicolson's is generally between 10 m by 10 m and 30 m x 30 m in the upper areas of the deposits and extends to 50 m x 50 m at depths greater than 200 m. The drill spacing at Wagtail and Rowdies is generally 20 m x 20 m with some areas of 10 m x 20 m infill.</li> <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> <li>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.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>Drilling is predominantly at 270o to local grid at a dip of -60o. Local structures strike north-south on the local grid and dip at 60oE. No bias of sampling is believed to exist through the drilling orientation</li> <li>Underground development sampling is nominally undertaken normal to the various orebodies.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>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 or Pine Creek. Samples are tracked during shipping.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>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> </ul>

## SECTION 2: REPORTING OF EXPLORATION RESULTS – HALLS CREEK

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Tenements containing Resources and Reserves are 80% held by Pantoro subsidiary company Halls Creek Mining Pty Ltd. They are: M80/343, M80/355, M80/359, M80/503 and M80/471. M80/362 Tenement transfers to HCM are yet to occur as stamp duty assessments have not been completed by the office of state revenue. Pantoro recently announced an agreement to acquire 100% of the tenements, however the transaction is not yet complete. The tenements lie on a pastoral lease with access and mining agreements and predate native title claims.</li> <li>The tenements are in good standing and no known impediments exist.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>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 resource estimate. GBS Gold acquired TGM and drilled 4,000 m before being placed in administration. Review of available reports show work to follow acceptable to standard industry practices.</li> </ul>

Criteria	JORC Code explanation	Commentary
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>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 turbiditic greywackes, felsic volcanoclastics, 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).</li> <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 500m along strike and overprint the earlier folding and penetrative cleavage of the HCO.</li> <li>The overall geometry of the system is characterized by right step-overs and bends/jogs in the shear traces, re-reflecting 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> <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> <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> <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	<ul style="list-style-type: none"> <li>• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:               <ul style="list-style-type: none"> <li>» easting and northing of the drill hole collar</li> <li>» elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>» dip and azimuth of the hole</li> <li>» down hole length and interception depth</li> <li>» hole length.</li> </ul> </li> <li>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>• Drillholes used in the global Nicolson’s Resource estimate included 242 RC and 20 RAB holes for a total of 1,338m within the resource wireframes.</li> <li>• The updated resource zone is based on data from face rockchip samples only.</li> <li>• Rowdies drilling included 36 RC and 2 aircore holes (AC) for a total of 241 m of intersection within the resource wireframes. Wagtail North comprised 84 RC and 6 AC holes for 553 m of intersection with the resource wireframes. Wagtail South comprised 23 RC and 20 AC holes for 203 m of intersection within the resource wireframes.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>• Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• Drill results as reported are composited intersections within the interpreted mineralisation wireframes which form the basis of the resource. Intercepts are composited from 1 m sample increments and no weighting other than length is applied. The Lower cut-off grade is a nominal 0.5g/t Au with a minimum 2m downhole length above 200 mRL and a nominal 1.0g/t Au with a 1 m minimum downhole length below 200 mRL. Top cuts for Nicolson’s lodes were 40 g/t and 45g/t Au for different domains dependent upon the lode grade distribution. Rowdies, Wagtail North and Wagtail South had top cuts of 20g/t, 45g/t and 50g/t Au respectively.</li> <li>• All sample intervals within the interpreted wireframe shells were used in the grade estimation.</li> <li>• No metal equivalent values are used.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’).</li> </ul>	<ul style="list-style-type: none"> <li>• Drilling is predominantly at 270o to local grid at a dip of -60o. Local structures strike 0o to the local grid and dip at 60oE (i.e. having a 60o intersection angle to lode structures). Deeper holes have some drillhole deviation which decreases or increases the intersection angle, but not to a significant extent.</li> <li>• Downhole lengths are reported and true widths are approximately 60 – 90% of down-hole length.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate diagrams are included in the report.</li> </ul>

Criteria	JORC Code explanation	Commentary
Balanced reporting	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Diagrams show the location and tenor of both high and low grade samples.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>Groundwater is largely confined to fault structures, typical of fracture rock systems with low yields and able to be controlled with air pressure while drilling. Metallurgical and geotechnical work studies have been completed as part of feasibility studies in support of ore reserves with no significant issues noted. No significant deleterious substances have been noted. Onsite milling has achieved recoveries of 94 to 96.5%.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Underground mining has commenced and processing of this ore has produced gold at levels above local grade estimates.</li> </ul>

### SECTION 3: ESTIMATION AND REPORTING OF MINERAL RESOURCES – HALLS CREEK

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <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. 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.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The Competent Person regularly visits the site and has a good appreciation of the mineralisation styles comprising the Mineral Resource.</li> </ul>

Criteria	JORC Code explanation	Commentary
Geological interpretation	<ul style="list-style-type: none"> <li>• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>• Nature of the data used and of any assumptions made.</li> <li>• The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>• The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>• The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Data used for the geological interpretation includes surface and trench mapping and drill logging data. Underground face sampling, face geology and backs mapping were also utilized from close spaced level development is also used where available.</li> <li>• An alternative interpretation (steeper lodes) of deeper portions of the deposit was modeled and provides no material change to the resource estimate. In general the interpretation of the mineralised structures is clear.</li> <li>• Geological interpretation of the data was used as a basis for the lodes which were then constrained by cut-off grades.</li> <li>• Geology and grade continuity is constrained by quartz veining within the NFSZ and by parallel structures for the other prospects.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>• The Nicolson's deposit is approximately 700m in strike length and generally 0.5 to 2m wide.</li> <li>• The Rowdies and Wagtail deposits occur over a strike length of approximately 900m. Widths vary between 300mm and 4m.</li> </ul>



Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul style="list-style-type: none"> <li>Separate block models were generated for Nicolson's, Rowdies and Wagtail North and South. Individual mineralised structures were domained separately. Models contain grade estimates and attributes for blocks within each domain only.</li> <li>Ordinary Kriging (OK) using Surpac software was used to generate the resource estimates. Variography of gold grades from drilling data provides a maximum grade continuity of 50 m down plane plunge, 20 m perpendicular to plunge and 5 m across plunge for Nicolson's Find; 90 m down plunge, 55 m perpendicular to plunge and 5 m across plunge for Nicolson's South and 20.5m down plunge, 14.5 m perpendicular to plunge and 12, across plane for Wagtail South. Rowdies and Wagtail North have a strike-dip control on mineralisation. Rowdies grade continuity was 60 m down-dip, 50 m along strike and 4 m across the plane. Wagtail North parameters were 50 m along strike, 30 m down-dip and 4 m across the plane.</li> <li>A number of resource estimates by consultants, Optiro have been generated with previous resource estimates reconciled to later upgrades. Reconciliation of the Nicolson's open pit resource model with mine records provides a difference of -6% in tonnes, +15% in grade and +9% in gold metal compared to the resource model; however, the open pit area is only a small proportion of the current resource extents. Production figures from Rowdies and Wagtails are low in confidence and have not reconciled to the resource model.</li> <li>By products are not included in the resource estimate.</li> <li>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.</li> <li>Models were interpolated with a block model cell size of 10 mN x 5 mE x 5 mRL, with sub-celling for volume representation only to 0.3 m. Estimation used 4 passes at Nicolson's and 3 passes elsewhere. At Nicolson's Find, the 1st pass used a search radius of 50 m with a minimum of 8 and maximum of 32 samples. Nicolson's South estimation used a 90m radius for the 1st pass with a minimum of 4 and maximum of 12 samples. The search radius was increased by 1.5 for second pass and the minimum number of samples was decreased to 4 for the 3rd pass. The search radius was increased by a factor of 3 and the minimum number of samples decreased to 1 for the 4th pass at Nicolson's.</li> </ul>

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques (continued)		<ul style="list-style-type: none"> <li>The size of the blocks was determined by Kriging Neighbourhood Analysis in conjunction with the assumption of a relatively selective mining approach for both open pit and underground operations.</li> <li>Only gold has been estimated.</li> <li>Geological interpretation constrained initial resource wireframes; these were oriented along trends of grade continuity and were constrained further by cut-off grades.</li> <li>Grade distribution statistics were used to generate top cuts, along with the analysis of distribution graphs and disintegration analysis.</li> <li>Models were validated visually and by statistical comparison to input data both on a whole-of-domain and on a sectional basis using continuity or swathe plots.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content</li> </ul>	<ul style="list-style-type: none"> <li>Tonnage was estimated on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied</li> </ul>	<ul style="list-style-type: none"> <li>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).</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>An optimised pit shell was used to constrain material described as open pit with material outside this shell assigned to a potential underground operation.</li> <li>The minimum downhole intersection width of 2m for material above 200m and 1 m below 200m is considered to represent minimum mining widths for selective open pit and underground operations respectively.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Metallurgical test work has shown acceptable (&gt; 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.</li> </ul>

Criteria	JORC Code explanation	Commentary
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>The deposits are on granted mining leases with existing mining disturbance and infrastructure present.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>Bulk density measurements of ore were calculated from drill core using the water displacement method and data from historical mining. Pit data provided 29 samples and drilling provided 91 samples.</li> <li>Bulk density estimates used were: Oxide All: 2.0 t/m<sup>3</sup> Transitional All: 2.4t/m<sup>3</sup> Fresh Rowdies and Wagtails: 2.7t/m<sup>3</sup> Fresh Nicolsons: 2.8t/m<sup>3</sup> Mother Lode (Nicolsons): 3.0t/m<sup>3</sup></li> </ul>
Classification	<ul style="list-style-type: none"> <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 confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>Resources are classified in line with JORC guidelines utilising a combination of various estimation derived parameters, input data and geological / mining knowledge.</li> <li>This approach considers all relevant factors and reflects the Competent Person's view of the deposit.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates</li> </ul>	<ul style="list-style-type: none"> <li>A review of the prior estimates estimate have been the subject of independent review. No significant issues were noted.</li> <li>The current resource has been reviewed internally and results are consistent with reconciled production results.</li> </ul>

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The relative accuracy of the Mineral resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.</li> <li>The statement reflects local estimates at the block size.</li> <li>The resource model produced a 9% oz Au undercall against recorded production for the Nicolsons Find open pit. This amount is considered to be within acceptable limits for the classification of the resource. Moreover, the open pit mining represents a small fraction of the existing resource area. Current estimates on the whole are consistently lower than reconciled production from the underground mine.</li> </ul>

#### SECTION 4: ESTIMATION AND REPORTING OF ORE RESERVES – HALLS CREEK

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The Ore Reserve was calculated using detailed mine designs applied to the current JORC Resource Estimate. The Resource Estimate was completed by highly experienced resource geologists, overseen by the competent person.</li> <li>The Resources Reported are inclusive of the Ore Reserve.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The Competent Person has made a number of visits to the site and is heavily involved in preparation of the overall operations plans which are the basis for the Reserve Estimate.</li> </ul>
Study status	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The study completed to enable the estimation of the Reserve is considered to be a Feasibility level of study. Modification to estimates is undertaken during mining and Pantoro does not intend to complete further studies prior to a decision to mine.</li> <li>The mine planning process utilizes functional mine designs and prevailing site costs for formulation of the estimate</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>Nicolsons - The fully costed cut off grade is approximately 4 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 Nicolsons.</li> <li>Rowdies/Wagtail – Pits were designed using a 2.5g/t cut. Low grade resources recovered below the cut grade have not been reported, but in practice would be a low grade source left on surface and of some value.</li> </ul>

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	<ul style="list-style-type: none"> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <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> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<p><b>Nicolsons</b></p> <ul style="list-style-type: none"> <li>For Nicolsons, Detailed ore stopes and development drives were designed using Surpac software. It was assumed that stopes in the Mother Lode would suffer 15% dilution at 0g/t and achieve 95% recovery of diluted tonnes. It was assumed that stopes in the Hall Lode would suffer 25% dilution at 0g/t and achieve 95% recovery of diluted tonnes Ore drives were designed on the basis that drives with less than 60% ore would be resue mined with 30% dilution at 0g/t and 100% recovery. Drives not resue mined were recovered with 0% dilution and 100% recovery.</li> <li>For Nicolsons All Reserve tonnes are extracted using underground methods. Uphole benching with rock fill is the primary mining method and is considered suitable for the type and geometry of the deposit. Geotechnical factors were estimated by expert geotechnical consultants.</li> <li>Stopes are to be 30m along strike maximum. Where stopes are high grade they will be filled with loose waste to maximise extraction. In lower grade areas, pillars are left as necessary.</li> <li>Stopes were designed with a minimum width of 1.5m. All dilution is assumed to have zero gold value.</li> <li>Mining is by owner operator using leased equipment. Actual lease rates are utilised</li> </ul>
		<ul style="list-style-type: none"> <li>For development 100% of diluted ore mined is recovered. For stoping 95% of diluted ore is recovered.</li> <li>The minimum mining width is 1.5m for stopes.</li> <li>Inferred resources were included in the full mine plan but are not stated in the reserve.</li> <li>The costs used in the model include all required infrastructure including fixed plant, buildings and magazines, and mine excavations.</li> </ul> <p><b>Rowdies/Wagtail</b></p> <ul style="list-style-type: none"> <li>Resources were optimized using whittle 4D software, followed by detailed open pit design using Surpac software.</li> <li>Key parameters used in optimization were sourced from prevailing site prices (fuel and consumables, milling cost and administration cost), recent contract pricing (mining) and prevailing market rates for general items.</li> <li>Final pit slopes are 43 degrees, in line with geotechnical studies completed by Bulletin Resources.</li> <li>Mining dilution of 15% and 100% recovery of diluted ore was utilised.</li> </ul>

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <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> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	<ul style="list-style-type: none"> <li>The existing processing plant at Nicolsons uses a conventional CIP circuit, which is appropriate for the style of mineralisation.</li> <li>The CIP process is the conventional gold processing method in Western Australia and is well tested and proven.</li> <li>Metallurgical testwork has been completed for 6 fresh ore samples with varying characteristics. In all cases it is possible to achieve +96% recovery provided that a gravity recovery circuit is employed. A Knelson concentrator is included in the mine plan for that purpose. The recovery assumed is 96%.</li> <li>There are not any know deleterious elements</li> <li>The 96% recovery is consistent with calculated recoveries from the current operating period from the Nicolsons underground mine</li> <li>Not applicable</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>The Nicolsons site has extensive existing infrastructure including a processing plant. The cost to bring all infrastructure back to operating status has been included in the Reserve calculation. The site is near the town of Halls Creek, and availability of accommodation has been confirmed. Transportation costs have been included. Prevailing industry labour rates have been applied.</li> </ul>
Costs	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made, regarding projected capital costs in the study</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The source of exchange rates used in the study.</li> <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> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul style="list-style-type: none"> <li>Capital costs were estimated by identifying capital equipment items and estimating labour and equipment requirements for installation of capital equipment. Whenever possible quoted rates were used.</li> <li>Operating costs are calculated from first principles with quotations used when possible. Industry standard rates for labour and equipment were applied to a detailed mine schedule.</li> <li>There are no known deleterious elements and no adjustments have been made.</li> <li>All costs were estimated in Australian dollars, and a gold price of \$1400/Oz was utilized.</li> <li>Transport charges were based on quotation.</li> <li>Credit elements including silver were not attributed any value in the calculation and it is assumed that the silver credits received will cover refinement charges.</li> <li>A 2.5% state government royalty was assumed. It was also assumed that Bulletin Resources does not contribute its 20% and a 1% royalty payment to Bulletin was applied.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>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.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul style="list-style-type: none"> <li>Grade is scheduled monthly in a detailed mining schedule.</li> <li>Gold price was assumed to be A\$1,500 per ounce.</li> <li>No revenue from silver or any metals other than gold was assumed.</li> </ul>



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Market assessment	<ul style="list-style-type: none"> <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 windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul style="list-style-type: none"> <li>Gold prices can be volatile and there are many conflicting positions on the future price of Gold. Pantoro believes that A\$1,500 per ounce is a realistic forward price forecast for gold over the life of the proposed mine.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>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.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul style="list-style-type: none"> <li>Due to the short life of the proposed mine, inflation was not applied to costs or gold price.</li> </ul>
Social	<ul style="list-style-type: none"> <li>The status of agreements with key stakeholders and matters leading to social licence to operate.</li> </ul>	<ul style="list-style-type: none"> <li>The project is on granted mining leases and the company has an access agreement with the pastoral lease owner who is also the local aboriginal.</li> </ul>
Other	<ul style="list-style-type: none"> <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> <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 style="list-style-type: none"> <li>Pantoro's ownership of the project is governed by an Acquisition Agreement with Bulletin Resources. Pantoro is satisfied that it has complied with the requirements of that agreement.</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> <li>PNR lodged its Mining Proposal and Closure Plan to the DMP in August 2014 and believes that it is close to receiving approval for mining of the deposit. PNR is currently finalising permit documents for Rowdies and Wagtail pits.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	<ul style="list-style-type: none"> <li>The reserve has been derived from Measured and Indicated Resources. Inferred material has been excluded from the reserve.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Ore Reserve estimates.</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews have been completed.</li> </ul>

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Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <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 procedures used.</li> <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> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• The Proven/ Reserve is primarily based on close spaced underground development sampling on the currently developed areas of the mine Probable Reserve is primarily based on RC drilling. Recent diamond drilling and development indicates that ore may be narrower but higher grade. A comparison of gram metres in the model vs gram metres in drilling indicated that the total ounces in the Reserve are reasonable and may be conservative.</li> <li>• No modifying factors apart from those set out in this Table 1 have been included.</li> </ul>