

24 January 2017

## **Maiden 219,000 ounce gold resource estimated for Jumbuck Gold Project**

Tyranna Resources Limited ("Tyranna") (ASX: TYX), as manager of the Western Gawler Craton Joint Venture which includes WPG Resources Ltd (ASX: WPG) and Coombedown Resources Pty Ltd is pleased to announce a Maiden Mineral Inferred Resource for the Jumbuck Gold Project reported in accordance with JORC Code 2012 for 219,000 ounces. The resource estimation was undertaken by MPR Geological Consultants Pty Ltd (MPR) and forms part of ongoing resource drilling and project development being undertaken toward the Jumbuck Gold Project Exploration Target of 500,000 oz (ASX 17 October 2016).

### **Highlights:**

- **The Jumbuck Gold Project Maiden Inferred Mineral Resource, reported in accordance with JORC Code 2012, totals 219,000 ounces.**
- **Resource represents completion of phase one toward 500,000 Au oz exploration target. Planned drilling for 2017 of 15,000 – 20,000 metres will commence in March.**
- **Resources were estimated for: Golf Bore, Golf Bore North, Greenwood, Mainwood and Campfire Bore deposits all located within trucking distance of the Challenger gold mine operated by joint venture partner WPG Resources Ltd.**
- **All deposits are interpreted to be open at depth and have excellent potential to increase the resource with future drilling.**
- **Mineralisation is interpreted to be hosted within northeast trending, moderately dipping to vertical zones of sheared quartz-feldspar biotite gneiss units.**
- **Resource estimates completed by independent consultants - MPR Geological Consultants Pty Ltd.**

Tyranna Resources Managing Director, Bruno Seneque commented, “The Western Gawler Craton Joint Venture is very pleased to deliver on the first part of our strategy to define and progress Jumbuck toward our exploration target of 500,000 ounces. The drill program to date has not only delivered the 219,000 ounces Maiden Mineral Inferred Resource but it has more importantly provided the geological and structural data to the JV that gives us confidence that Jumbuck can develop into a significant gold project with excellent exploration upside to come.”

## Introduction

MPR Geological Consultants Pty Ltd (MPR) was commissioned by Tyranna Resources Limited (Tyranna) to review the reliability of drilling information and to estimate Mineral Resources for the Jumbuck Gold Project. The current study includes the Golf Bore, Golf Bore North, Greenwood, Mainwood and Campfire Bore Deposits. The Monsoon and Typhoon prospects are other early exploration stage prospects in the Jumbuck Gold Project area and have insufficient sampling for estimation for Mineral Resources. Monsoon and Typhoon, therefore, are not included in the current resource estimates.

## Location

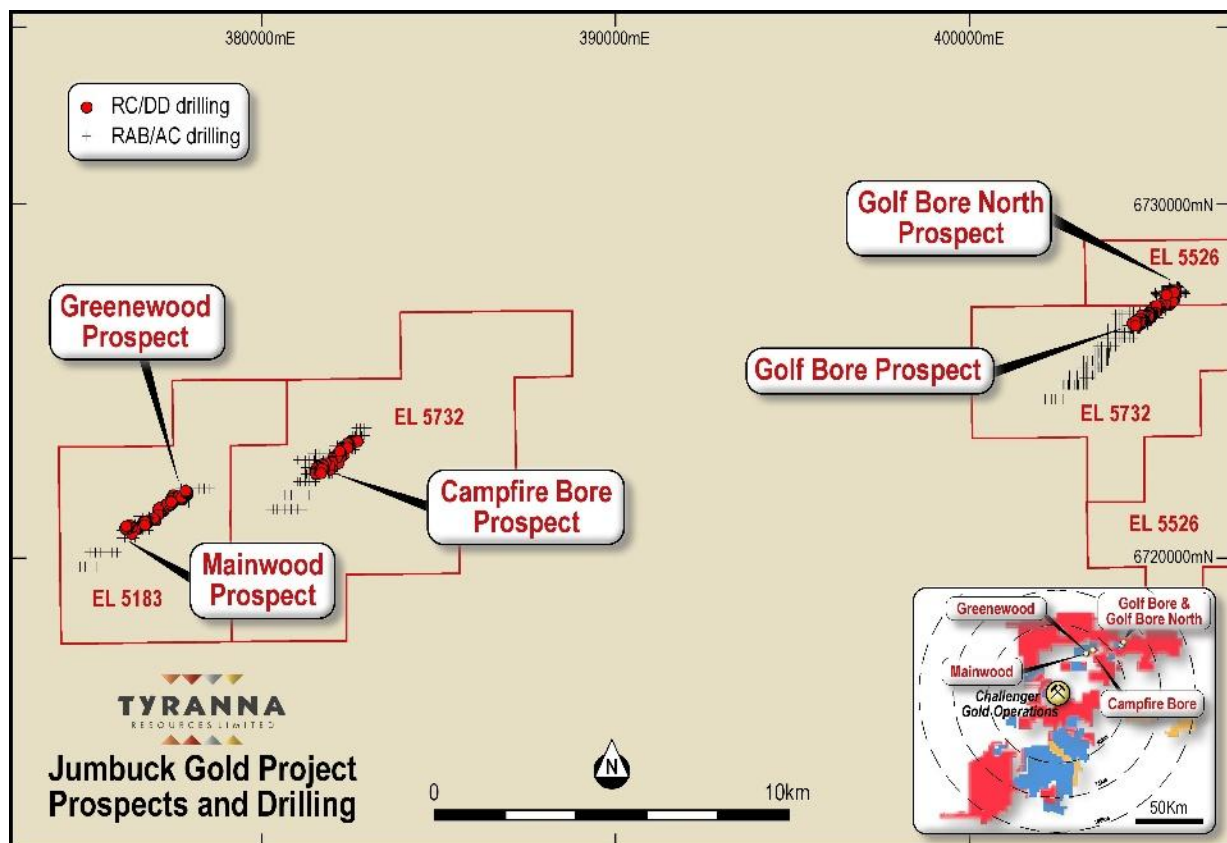


Figure 1: Jumbuck Gold Prospect Location Map

## Resource Estimates

### Jumbuck Project inferred resource estimates January 2017

Deposit area		0.5 g/t cut off			0.8 g/t cut off		
		Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Golf Bore	Golf Bore	2.98	1.0	96	1.42	1.5	68
	Golf Bore North	0.40	0.9	12	0.15	1.2	6
	<b>Combined</b>	<b>3.38</b>	<b>1.0</b>	<b>107</b>	<b>1.57</b>	<b>1.5</b>	<b>74</b>
Greenwood		0.70	1.0	23	0.34	1.4	15
Mainwood		0.36	0.9	10	0.14	1.3	6
Campfire Bore		2.45	1.0	79	1.14	1.4	51
<b>Total</b>		<b>6.89</b>	<b>1.0</b>	<b>219</b>	<b>3.19</b>	<b>1.4</b>	<b>147</b>

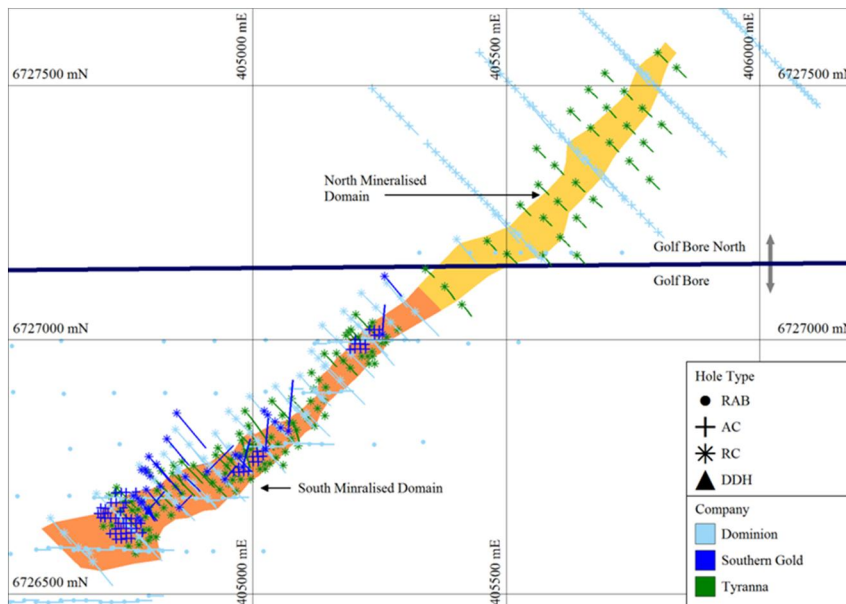
\*The figures in these tables are rounded to reflect the precision of the estimates and include rounding errors.

## Golf Bore / Golf Bore North

Golf Bore is intersected by a tenement boundary, which subdivides this deposit into two areas designated as Golf Bore and Golf Bore North respectively.

Golf Bore is the most densely sampled of the deposits included in the current study, and as shown in Figure 2, drilling in this area comprises of the following:

- Initial 100 by 200 metre spaced vertical Dominion RAB holes, which have been generally replaced by later AC and RC drilling.
- Traverses of angled Dominion RC holes spaced at 25 to 50 metres in southern portions of the deposit, and 250 metres in northern portions including Golf Bore North.
- Several clusters of close spaced (10 by 10 metre) vertical Southern Gold AC holes.
- Tyranna RC holes, including variably spaced deeper angled holes and generally shallower vertical holes infilling several areas to around 20 by 20 metre spacing.



**Figure 2: Golf Bore / Golf Bore North drill hole traces and mineralised domains**

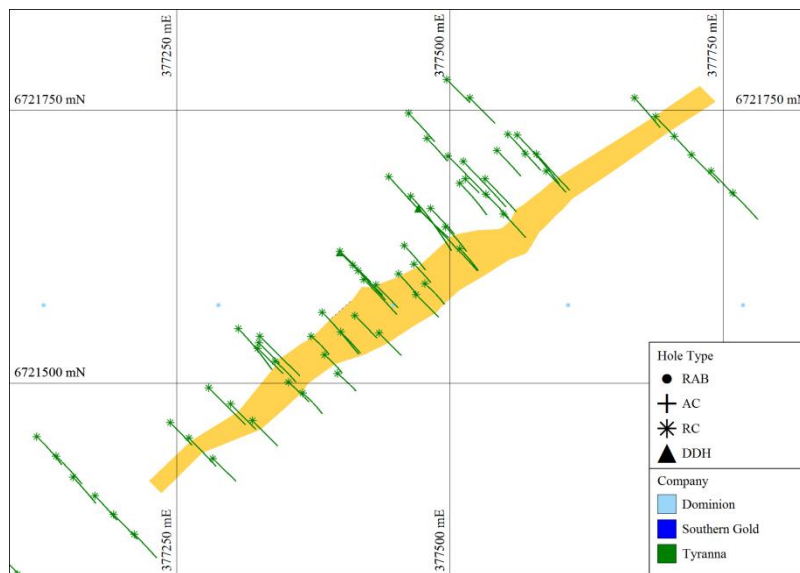
The mineralised envelope interpreted for Golf Bore trends northeast (050) over 1.6 kilometres and dips to the west at around 65°. Horizontal domain widths average approximately 70 metres. The envelope is subdivided into a comparatively more closely drilled, generally higher grade southern domain, and more broadly drilled, generally lower grade northern domain.

For the mineralised area the depth to base of the highly weathered zone ranges from around 17 to 33 metres and averages around 23 metres, with depth to fresh rock averaging around 37 metres.

## Greenwood

As shown in Figure 3, Greenwood area drilling comprises the following:

- A traverse of 160 metre spaced shallow Dominion regional exploration RAB holes through the centre of the currently interpreted mineralisation.
- Tyranna RC holes and a single diamond hole drilled on northwest-southeast traverses.
- Central portions of the currently interpreted mineralised strike length have been tested by 50 metre spaced traverses, with spacing broadening to around 100 metres in the north.



**Figure 3: Greenwood hole traces and mineralised domains**

Greenwood is interpreted to represent the along strike continuation of the Mainwood mineralisation. As currently interpreted, these deposits are separated by a gap of approximately 500 metres, where broadly spaced drilling shows generally low gold grades.

Greenwood mineralisation has been interpreted over approximately 620 metres of strike. The mineralised envelope trends northeast (057) and dips to the west at around 60°. Horizontal domain widths average approximately 30 metres.

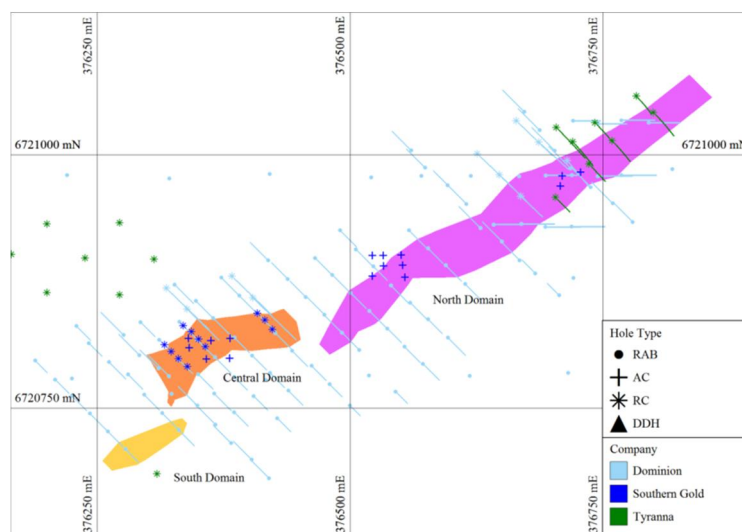
For the mineralised area the depth to base of the highly weathered zone ranges from around 10 to 22 metres and averages around 17 metres. Thickness of the transition zone averages around 21 metres with depth to fresh rock averaging around 38 metres.

## Mainwood

As shown in Figure 4, drilling in the Mainwood area comprises the following:

- A 100 by generally 200 metre grid of shallow Dominion regional exploration RAB holes.
- Generally deeper inclined Dominion RAB holes mostly inclined towards the southeast on 135 trending, 50 metre spaced traverses with rare easterly inclined holes.
- Several small clusters of vertical AC holes drilled by Southern Gold.
- RC holes drilled by Tyranna including a pattern of inclined holes in the northeast of the deposit and several vertical holes to the west of interpreted mineralisation.

Areas of currently interpreted Mainwood mineralisation have been tested by only RAB drilling, and unlike the other deposits included in the current study, RAB data were included in the Mainwood estimation dataset. The areas with only RAB drilling are particularly poorly tested at depth, and estimates for these areas are uncertain. Additional deeper high quality drilling would be required to confidently estimate resources in these areas, and may significantly change estimated resources.



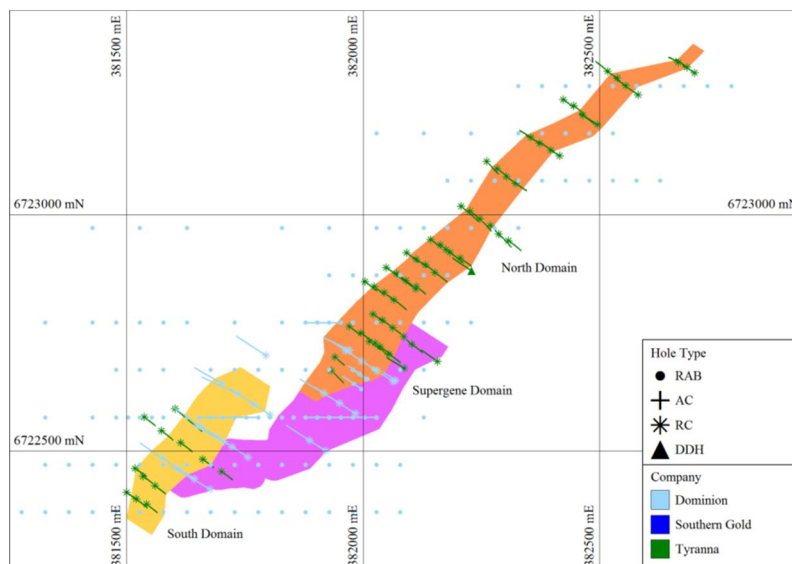
**Figure 4: Mainwood hole traces and mineralised domains**

Mainwood mineralisation has been interpreted to comprise three zones, designated as the south, central and north domains. As shown in Figure 4, the central domain is offset around 50 metres northwest from the trend of the south and central zones. Reasons for this are uncertain, with potential explanations including offsets by post mineralisation faults.

The combined mineralised domains trend northeast (057) over 700 metres with an average horizontal width of around 37 metres and dip at around 62 degrees to the northwest. For the mineralised area the depth to base of the highly weathered zone ranges from around 19 to 28 metres and averages approximately 22 metres. Thickness of the transition zone averages around 10 metres with fresh rock at an average depth of around 32 metres, somewhat shallower than for Greenwood.

## Campfire Bore

- Dominion RAB holes including a 50 by generally 100 metre grid of shallow vertical holes and several easterly inclined holes in the southern part of the deposit
- 100 metre spaced traverses of inclined Dominion RC holes in the south.
- Generally 50 metre spaced traverses of south-easterly and rarely north-westerly inclined Tyranna RC holes, and a single diamond hole in central and northern parts of the deposit.
- Mineralised domain composites in the Campfire Bore estimation dataset are dominated by composites from Dominion and Tyranna RC holes, which contribute approximately equal amounts. Tyranna diamond drilling represents around 2% of the dataset.



**Figure 5: Campfire Bore hole traces and mineralised domains**

Interpreted Campfire Bore mineralisation comprises two sub-vertical northeast (030) trending primary mineralised zones designated as the south and north zones, and a flat lying domain representing interpreted supergene enrichment adjacent these zones. The combined domains extend over approximately 1.5 kilometres of strike, with the primary domains averaging around 80 metres thick.

The current broadly spaced drilling poorly defines the continuity and orientation of fresh mineralisation, and interpretation of this material is uncertain. As shown in Figure 5, the south domain is offset around 100 metres northwest of the trend of the north zone. Reasons for this are uncertain, with potential explanations including post mineralisation fault offsets.

For the mineralised area the depth to base of the highly weathered zone ranges from around 20 to 40 metres and averages around 30 metres. The transition zone averages around 15 metres thick with fresh rock at an average depth of around 45 metres

## Exploration Opportunities

At Campfire Bore, Phase 3 drilling will focus on increasing the strike length of interpreted mineralisation at the northern portion of the deposits and down dip drilling which if successful will significantly enhance the current resource estimate.

The Greenwood Gold Prospect presents an excellent opportunity to increase the current resource by following up late 2016 drilling results such as hole 16GWRC073 which intersected primary gold mineralisation of 8m @ 3.35 g/t Au from 55m (refer ASX announcement on 22 December 2016).

Resource estimates for the near surface, high grade southern prospects known as Typhoon and Monsoon have not been included in this report due to delays in obtaining native title clearance in 2016 which prohibited drilling at Typhoon and Monsoon. Tyranna will initiate the Phase 3 drill program by commencing a 2,500m RC drilling campaign at Typhoon and Monsoon to test near surface (>10m) high grade targets generated by previous explorers.

### Competent persons statements:

The information in this announcement that relates to Exploration Results and general project comments is based on information compiled by Nicholas Revell, a Competent Person who is a Member of The Australian Institute of Geoscientists. Mr. Revell is the Technical Director of the Company. Mr. Revell has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Revell consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to the Mineral Resource estimates is based on information compiled by Jonathon Abbott, a Competent Person who is a Member of the Australian Institute of Geoscientists. Jonathon Abbott is a full time employee of MPR Geological Consultants Pty Ltd and is an independent consultant to Tyranna Resources Limited. Mr Abbott 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 Mineral Resources and Ore Reserves'. Mr. Abbott consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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## About Tyranna

Tyranna is a gold exploration company focused on the large Jumbuck Gold Project in the Northern Gawler Block of South Australia. Tyranna is planning an exploration program for 2017 comprising a drilling campaign of 15,000 – 20,000 metres at Jumbuck which is planned to commence in March 2017. A total of 14,389 metres was drilled at the Jumbuck Gold Project during the 2016 calendar year with the aim to explore for high grade open pit, gold mineralisation within trucking distance of the Challenger gold operations. The Challenger gold operations is owned and operated by Tyranna's joint venture partner WPG Resources Ltd.



Jumbuck is a highly prospective and underexplored area, similar in style to the Albany/Fraser belt adjacent to the Yilgarn Craton in Western Australia which is host to the large 6.3M Au Oz Tropicana gold deposit. Tyranna controls over 9,762 km<sup>2</sup> of ground in this area, which also hosts the Challenger gold mine (owned by WPG Resources Ltd). Challenger has produced in excess of 1 million ounces of gold to date.

The Jumbuck Project has numerous gold occurrences over large areas with strong potential for significant resources of shallow oxide ore and repeat Challenger style deposits.

Tyranna's strategy is to target those more advanced gold prospects which are situated within 50 km's of the Challenger gold processing operations and increase the economic scale of these prospects via focused and extensive exploration drilling.

## Appendix.1

### Section 1 Sampling Techniques and Data

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>Reverse Circulation (RC)                             <ul style="list-style-type: none"> <li>used high pressure air and a cyclone with a cone splitter</li> <li>Sampling was taken on continuous 1m intervals</li> <li>4m composite samples was completed by the contract laboratory</li> <li>Samples were transported to the laboratory in plastic bags</li> </ul> </li> <li>Diamond Drilling (DDH) diamond core was marked up on site and then delivered to Adelaide .</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>Drilling was carried out using a multipurpose RC / Diamond drill rig, with HQ Diamond core collected.</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>RC split samples were recovered from a cyclone and cone splitter. The sample recovery were recorded</li> <li>Sample recovery of the diamond core is recorded on core blocks after each run and recorded in logging.</li> </ul>
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>All drill holes were geologically and geotechnically logged by Tyranna geologist using the Tyranna logging procedure</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>Samples from RC drilling and Diamond pre-collars have been collected by rig mounted cyclone at 1m intervals throughout with compositing of the first 16-20m occurring at the lab. Samples from the Diamond core were collected as 1m samples in un-mineralised ground with various intervals between 0.4m -1.5m lengths, based on lithology, sampled through the mineralised zones. Slithers representing 1/3rd of the core volume were submitted for geochemical analysis</li> </ul>
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>The drill holes were drilled at near perpendicular to the strike of the ore body</li> <li>Diamond core was oriented using a Reflex ACE tool.</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>The results are considered acceptable and reviewed by geologists.</li> <li>No adjustments to assay data have been undertaken.</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>Drill hole collar surveys and topographic surveys were carried out using a handheld GPS</li> <li>The grid system is MGA94, zone 53</li> <li>Topographic control at is considered adequate.</li> </ul>
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>The drillholes are on drill lines spaced between 50-100m line spacing with holes at ~25m spacing's along lines.</li> <li>Most drillholes are drilled perpendicular to the dip direction of the gold mineralisation</li> <li>Samples compositing has been applied but occurs at the lab rather than at the rig.</li> </ul>
Orientation of data in relation to geological	<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> </ul>	<ul style="list-style-type: none"> <li>The orientation of sampling is appropriate to the orientation of the mineralisation, though at this stage is not confirmed if the</li> </ul>

Criteria	JORC Code explanation	Commentary
structure	<ul style="list-style-type: none"> <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>angle shows the exact true width</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>Samples were stored on site and transported to the laboratory in Adelaide</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>No audits or review has been conducted as yet</li> </ul>

## Section 2 Reporting of Exploration Results

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>The project comprises granted tenements EL4577, EL5526 and EL5183</li> <li>The tenement is 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 area has been a target for mineral exploration since the 1990's by multiple companies. All of the knownwork has been appraised by Tyranna and has formed an important component of the company's assessment of the project.</li> </ul>
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>Jumbuck is considered to be geologically analogous to the Challenger gold deposit, which is an orogenic, structurally controlled gold deposit within highly deformed terrain. Gold is hosted within gneiss and is generally found in economic quantities along regional fold hinges</li> </ul>
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>No individual drill hole results are reported in this announcement..</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>No individual drill hole results are reported in this announcement.</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>No individual drill hole results are reported in this announcement</li> <li>The Jumbuck project is at an early stage of evaluation, and the orientation of all mineralised zones have not yet been clearly defined.</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 maps are included in main body of the report.</li> </ul>
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>No individual drill hole results are reported in this announcement.</li> </ul>

Criteria	JORC Code explanation	Commentary
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>All relevant geological and geochemical data collected so far have been reported.</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>Further work is required which includes mapping and other exploration programs such as RC and Diamond drilling.</li> </ul>

## Section 3 Estimation and Reporting of Mineral Resources

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>Tyranna geologists and database administrators routinely validate database entries with reference to original data.</li> <li>MPR's independent checking of database validity included: Comparison of assays between nearby holes, checking for internal consistency between, and within database tables and comparing database assay entries with laboratory source files. These checks showed no significant discrepancies in the database used for resource estimation.</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>Between the 15<sup>th</sup> and 17<sup>th</sup> of November Mr Abbott visited the Jumbuck project and Challenger Geological Services Pty Ltd core preparation facilities in Adelaide, South Australia where core from Tyranna's diamond drilling is stored. The site visit included visiting all deposits included in this study, inspection of RC drilling and sampling for several drill holes, and detailed discussions with Tyranna geologists. Through these activities Mr Abbott gained improved understanding of the geological setting and mineralisation controls, and the resource sampling activities.</li> </ul>
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>Assessment of the Jumbuck project is at a comparatively early stage and mineralisation controls have not yet been established in detail. Mineralisation is interpreted to be hosted within northeast trending, moderately dipping to vertical zones of sheared and altered quartz-feldspar-biotite gneiss units.</li> <li>Mineralisation is overlain by generally around 25 m of barren highly weathered material with commonly around 15 m of variably weathered transitional material. The transitional zone commonly shows apparent supergene enrichment of gold grades, including local dispersion of mineralisation outside the mineralised zones as interpreted for fresh mineralisation.</li> <li>Geological setting and mineral controls have been established with sufficient confidence for the current estimates.</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>Mineralised domains used for the current estimates have the following dimensions:</li> <li>Golf Bore: The domain trends northeast over 1.6 km and dips to the west at around 65° with average horizontal widths of approximately 70 m.</li> <li>Greenwood: The domain trends northeast over 620 m and dips to the west at around 60° with average horizontal widths of approximately 30 m.</li> <li>Mainwood: Mineralisation has been interpreted as three zones, with a combined strike length of around 700 m which dip at around 60° to the northwest and have an average horizontal width of around 37 m.</li> <li>Campfire Bore: Mineralisation is interpreted as two sub-vertical northeast trending primary mineralised zones and a flat lying supergene zone. The combined domains extend over approximately 1.5 km, with the primary domains averaging around 80 m wide.</li> <li>For the combined project, estimated resources extend from the base of highly weathered material to around 230 m depth, with around 85% and 95% of the estimates from less than 120 and 150 m depth respectively.</li> </ul>
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> </ul>	<ul style="list-style-type: none"> <li>Mineralised domains used for the current study were interpreted by MPR from two metre down-hole composited gold grades and capture zones of continuous mineralisation with composite grades of greater than nominally 0.10 g/t. Estimation datasets, and resource estimates are constrained below the base of interpreted highly weathered material.</li> <li>Resources were estimated by Multiple Indicator Kriging (MIK). The MIK modelling used indicator variography based on Gold Bore mineralised domain composites with grade continuity characterised by indicator variograms modelled at 14 indicator thresholds.</li> <li>All class grades were derived from class mean grades with the exception of the upper bin grades which were selected on a case by case basis from commonly either the bin median, or bin mean excluding outlier grades.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>The modelling includes a multiple pass octant based search strategy giving estimates extrapolated to a maximum of 75 m from composite locations.</li> <li>Micromine software was used for data compilation, domain wire-framing, and coding of composite values, and G3M was used for resource estimation.</li> <li>The estimation technique is appropriate for the mineralisation style.</li> </ul>
	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>There has been no production from the project.</li> </ul>
	<ul style="list-style-type: none"> <li>The assumptions made regarding recovery of by-products</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> </ul>	<ul style="list-style-type: none"> <li>Estimated resources make no assumptions about recovery of by-products.</li> <li>The resource models include estimates for gold only. No deleterious elements were estimated</li> </ul>
	<ul style="list-style-type: none"> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> </ul>	<ul style="list-style-type: none"> <li>With the exception of central portions of Golf Bore which have 25 m spaced drill traverses, the resource areas have been generally tested by 50 and locally 100 m spaced traverses.</li> <li>RAB drilling was generally excluded from the resource datasets, with the exception of Mainwood. Small areas of this deposit have been tested by only RAB drilling, and these RAB data were included in the estimation dataset for these areas.</li> <li>For Golf Bore, resources were estimated into 10 by 25 by 4 m panels. For the other, deposits 10 by 50 by 4 m panels were used.</li> <li>Search ellipsoids were aligned with dominant domain orientations, with up to four progressively relaxed search passes used for estimation of each deposit. The variability in search criteria between deposits reflects differences in drill data availability and mineralisation trends. The largest search pass is consistent for all deposits at 75 by 75 by 24 m with minimum data requirements of 8 data in two octants.</li> <li>Mainwood estimation included two sets of search passes, comprising an initial set including only AC and RC sampling, and a second set including AC, RC and RAB drilling. This approach ameliorates the impact of RAB sampling by using only AC and RC data for estimation of areas with reasonable coverage of these sampling types. Search passes including RAB drilling inform only around 4% of the estimates.</li> </ul>
	<ul style="list-style-type: none"> <li>Any assumptions behind modelling of selective mining units.</li> </ul>	<ul style="list-style-type: none"> <li>The resource estimates include a variance adjustment to give estimates of recoverable resources at gold cut offs for mining selectivity of 3 by 5 by 2 m (across strike, strike, vertical) with high quality grade control sampling on an 4 by 6 by 1 m pattern.</li> </ul>
	<ul style="list-style-type: none"> <li>Any assumptions about correlation between variables</li> </ul>	<ul style="list-style-type: none"> <li>The modeling did not include specific assumptions about correlation between variables.</li> </ul>
	<ul style="list-style-type: none"> <li>Description of how the geological interpretation was used to control the resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>The mineralised domains used for resource estimation are consistent with geological interpretation of mineralisation controls.</li> </ul>
	<ul style="list-style-type: none"> <li>Discussion of basis for using or not using grade cutting or capping.</li> </ul>	<ul style="list-style-type: none"> <li>All class grades were derived from the class mean grades with the exception of the upper bin grades which were selected on a case by case basis from commonly either the bin median, or bin mean excluding outlier grades. This reduces the impact of small numbers of high-grade outlier composites.</li> </ul>
	<ul style="list-style-type: none"> <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>Model validation included visual comparison of model estimates and composite grades. There has been no production from the project.</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>Tonnages are estimated on a dry tonnage basis, with densities derived from immersion density measurements of air dried core samples.</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>Economic evaluation of the project is at an early stage, and metallurgical and mining parameters for potential mining have not yet been established. The cut-off grades applied to the estimates reflect Tyranna's interpretation of potential gold prices, costs and recoveries.</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>The resource estimates include a variance adjustment to give estimates of recoverable resources at gold cut offs for mining selectivity of 3 by 5 by 2 m (across strike, strike, vertical) with high quality grade control sampling on an 4 by 6 by 1 m pattern reflecting Tyranna's perception of potential mining scenarios.</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>Detailed metallurgical test work has yet to be carried out for any of the prospects in regards to this report. Information available to Tyranna indicates that the mineralisation appears likely to be amenable to conventional processing options.</li> </ul>
Environmental factors or	<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.</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation of the deposits included in this report is at an early stage, and environmental considerations for potential mining have not yet been evaluated in detail. Information available to Tyranna indicates that there are unlikely to be any specific environmental issues that would preclude potential eventual economic extraction.</li> </ul>

Criteria	JORC Code explanation	Commentary
assumptions	<i>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.</i>	
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>Estimated resources include densities of 2.2 and 2.8 t/bcm for transitional and fresh mineralisation respectively. These estimates are based on 26 immersion density measurements of air dried diamond core including 4 samples of transitional material and 22 samples of fresh material. The samples were not sealed to prevent water absorption. Uncertainties over the reliability and representivity of the density measurements are not significant for the current Inferred resources. Further density measurements are planned as assessment of the project continues.</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 (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>The current Mineral Resource estimates are all classified as Inferred.</li> <li>The resource classification accounts for all relevant factors and reflects the competent person's views 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>No formal audits have been undertaken in regards to this report. The estimates have been reviewed by Tyranna geologists, and are considered to appropriately reflect the mineralisation and drilling data.</li> </ul>
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>Confidence in the relative accuracy of the estimate is reflected by the categorisation as Inferred.</li> </ul>