

30 May 2018

# GOLD RESOURCES INCREASE BY 100,000 OZ TO 319,000 OZ AT JUMBUCK

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 Mineral Resource update for the Jumbuck Gold Project reported in accordance with JORC Code 2012.

### **Highlights:**

- ➤ The Jumbuck Gold Project Mineral Resource Estimate, reported in accordance with JORC Code 2012, totals 319,000 ounces, an increase of 100,000oz or 46% from the previous estimate (ASX: 24 January 2017).
- ➤ All deposits are interpreted to be open at depth and have excellent potential for resource increases with future drilling.
- > The deeper underground continuity of the mineralisation is yet to be tested.
- ➤ All deposits located within trucking distance of the Challenger gold mine operated by joint venture partner WPG Resources Ltd.
- ➤ All reported resources are within 100m from surface and therefore potentially exploitable by open cut mining.

Tyranna Resources Managing Director, Bruno Seneque commented, "This 100,000 oz increase is a very pleasing result for the WGCJV. It illustrates a significant step forward in building resources at Jumbuck. This new resource strengthens our understanding of the deposits and it is to be noted that these are shallow ounces, sitting only 100 metres from surface. We will now start to plan first pass scoping studies to evaluate the potential to advance toward feasibility studies. Of course this will entail discussions with our joint venture partner – WPG Resources, who operate the Challenger Gold Operations and have been supportive of Tyranna's exploration efforts."



Since the previous Mineral Resources Estimate was announced on 24 January 2017 Tyranna has conducted additional RC and Diamond core drilling. A total of 131 RC holes for 9,923.5m and 5 Diamond Core holes for 777.9m were drilled during 2017 and into early 2018. A summary of total drilling into the various projects is presented in table 2. The updated Mineral Resource Estimate is tabulated in table 1.

Additional drilling into Typhoon and Monsoon enabled maiden mineral resources to be estimated for these deposits. Also, drilling into Golf Bore and Greenewood increased confidence in the continuity of mineralisation resulting in maiden Indicated Resources for these deposits. Figures 3 and 4 illustrate the two main deposits, Golf Bore and Campfire Bore, block models.

### **Project History & Future Work**

The Jumbuck Gold Project is still at an early stage of development. There are no developed mines and therefore no historic production on the project area. Since the discovery of the Challenger gold deposit in 1995 and up to exploration work by Tyranna Resources, relatively little regional exploration work was carried out by previous explorers at Jumbuck with near mine and mill feed exploration taking a higher priority at the Challenger gold mine. Tyranna has reinvigorated exploration activity in the area with the aim to discover "Challenger style" economic gold mineralisation and to increase gold resources.

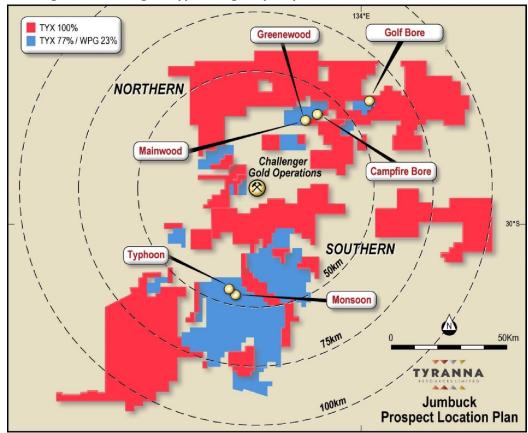
Over the past three years Tyranna has delineated more than 300,000oz of relatively shallow Mineral Resources. The early stage of this discovery and delineation phase is indicated by the shallow average depth of drilling illustrated in Table 3. The average depth of RC drilling into the deposits is only 80m and in addition there has only been 10 diamond drill holes completed. This means that these resources are potentially amenable to open cut mining. The underground continuity potential of these resources is yet to be tested adequately and exploration success in this endeavour is in line with Tyranna's aim to find a "Challenger style" deposit. Therefore the Jumbuck Gold Project is still at an early stage of its development and remains relatively underexplored.

Tyranna has commenced initial, internal economic analysis of the deposits based on these updated Mineral Resources. Optimisation of the resource block models indicates potential economic viability. The next stage of this process is to engage with Joint Venture partner - WPG Resources to determine accessibility to nearby processing facilities at the Challenger Gold Operations. Those discussions and consequent arrangements will then lead the Joint Venture to conduct targeted, infill drilling programs to upgrade sufficient resources to Indicated status to enable the estimation of Ore Reserves.





Figure 1: Drilling at Typhoon gold prospect towards maiden resource



**Figure 2: Jumbuck Gold Prospect Location Map** 



### **Resource Estimates**

Table 1. Jumbuck Project Mineral Resource Estimates May 2018 - 0.5g/t cut-off grade

Deposit	Indicated Resources			In	nferred Resour	ces	Total Mineral Resources			
0.5 g/t cut-off grade	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	
Golf Bore	0.57	1.0	18	3.22	1.0	100	3.79	1.0	119	
Campfire Bore	-	-	-	2.78	1.2	109	2.78	1.2	109	
Greenewood	0.14	1.4	7	0.75	1.6	39	0.90	1.6	46	
Monsoon	-	-	-	0.61	0.8	17	0.61	0.8	17	
Typhoon	-	-	-	0.27	1.9	16	0.27	1.9	16	
Mainwood	-	-	-	0.35	1.1	12	0.35	1.1	12	
Total	0.74	1.1	25	7.99	1.1	294	8.70	1.1	319	

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



Table 2. Jumbuck Project Mineral Resource Estimates May 2018 - 0.8g/t cut-off grade

Deposit	Inc	dicated Resoui	rces	In	ferred Resour	ces	Total Mineral Resources			
0.8 g/t cut-off grade	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	
Golf Bore	0.29	1.4	13	1.47	1.4	65	1.77	1.4	79	
Campfire Bore	-	-	-	1.99	1.5	93	1.99	1.5	93	
Greenewood	0.11	1.6	6	0.64	1.8	37	0.75	1.8	43	
Monsoon	-	-	-	0.25	1.2	10	0.25	1.2	10	
Typhoon	-	-	-	0.20	2.3	15	0.20	2.3	15	
Mainwood	-	-	-	0.15	1.7	8	0.15	1.7	8	
Total	0.41	1.4	19	4.71	1.5	229	5.12	1.5	248	

<sup>\*</sup>The figures in these tables are rounded to reflect the precision of the estimates and include rounding errors



**Table 3. Drilling Summary for Jumbuck Deposits** 

Deposit Air core Drilling		g		RAB Drilling	<b>.</b>		RC Drilling		Diamond Core Drilling			
	No. of	Total	Av.	No. of	Total	Av.	No. of	Total	Av.	No. of	Total	Av.
	holes	meters	depth	holes	meters	depth	holes	meters	depth	holes	meters	depth
Golf Bore	165	6,724	40.8	227	8,920	39.3	243	21,088	86.8	2	286	143.0
<b>Campfire Bore</b>	13	924	71.0	183	7,946	43.4	95	7,825	82.4	3	396	132.0
Greenewood	-	-	-	3	79	26.3	121	7,933	65.6	5	794	158.8
Monsoon	97	5,170	53.3	269	15,598	60.0	52	4,100	78.9	-	-	-
Typhoon	27	1,579	58.5	188	10,530	56.0	45	4,066	90.4	-	-	-
Mainwood	24	1,171	48.8	143	6,718	47.0	39	2,791	71.6	-	-	-
Total	326	15,568	47.8	1,013	49,791	49.2	595	47,803	80.3	10	1,476	147.6

Diamond Core Drilling includes RC pre-collars



### **Material Information Summary**

#### **Geology and Geological Interpretation**

The Jumbuck project is located in the north-western portion of the Gawler Craton within the Christie- Mulgathing Mobile belt. Archaean rocks of the Gawler Craton are contained within the Mulgathing and Sleaford complexes. These complexes are typically perceived as multiple deformed granulite—granitoid terrains. They contain a diverse and relatively complicated stratigraphy. This stratigraphy consists of granulite facies metamorphosed presumed protolith of mafic to ultramafic volcanics including komatilitic flows, along with felsic volcanics, clastic and chemical sediments, including banded iron formations, carbonates and chert.

#### Sampling Techniques, Sub-sampling Techniques and Sample Preparation

RC drilling was sampled on 1m intervals as the hole was drilled. A sub-sample of approximately 3kg was collected through a cylone and splitter on the rig. Sample recovery is generally very good.

Diamond core was sawn in half with a core saw and half core submitted for assay. Diamond core was HQ size (63.5mm). Core recovery in fresh rock is very high.

#### **Drilling Techniques**

The majority of drilling used in the estimation of Mineral Resources was RC drilling. Some RAB/Aircore is used in Inferred Resources in Campfire Bore, Mainwood, Typhoon and Monsoon. No RAB or Aircore drilling was used in Golf Bore or Greenewood estimations. The Diamond Drilling was HQ size core.

#### Classification

Mineral Resources are generally classified as Inferred except when drilling density is such that continuity of mineralisation can be assumed. Indicated resources have been estimated at Golf Bore and Greenewood where drilling density is at 25m spacing and at least three holes and 5 samples have been used for the estimation. Drilling is generally spaced at 50m and in these cases the resource category is Inferred.

#### **Sample Analysis Method**

Samples were submitted for assay at Bureau Veritas laboratories in Adelaide. Samples were fire assayed with a 40g charge and finished by AAS.

### **Estimation Methodology**

Three dimensional geological interpretations were constructed using Vulcan software. These included mineralised shapes, topography and weathering boundaries. Search directions were oriented along the strike of mineralisation and search distances were based on drill spacing. Where appropriate a two pass search was conducted to aid in classifying resources. Inverse distance squared grade interpolation was used.

#### **Cut-off Parameters**

All resources have been reported using a cut-off grade of 0.5g/t. The reported Mineral Resources are generally all within 100m of the natural surface and are therefore potentially exploitable by open cut mining methods. A cut-off grade of 0.5g/t is considered appropriate for such mining methods.

#### **Mining and Metallurgical Factors or Assumptions**

At this stage no mining or metallurgical asumptions or factors have been considered except for the application of a cut-off grade of 0.5g/t when reporting the Mineral Resources.



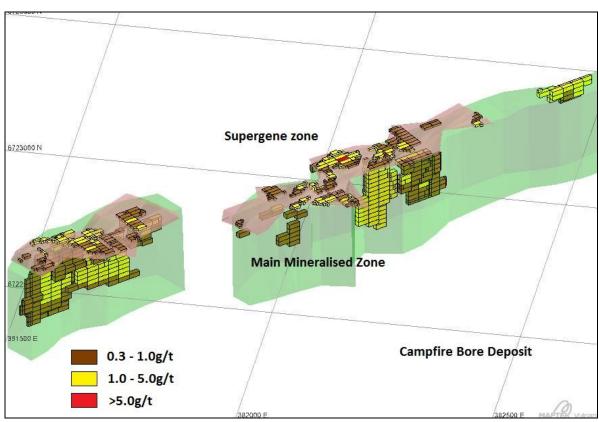


Figure 3: Campfire Bore deposit block model

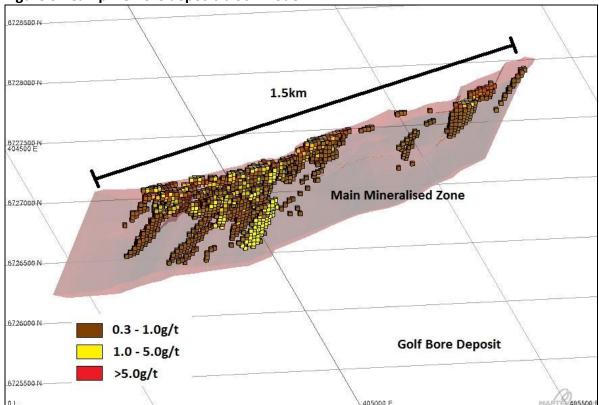


Figure 4: Golf Bore deposit block model



#### **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 Richard Maddocks, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy. Richard Maddocks is an independent consultant to Tyranna Resources Limited. Mr Maddocks 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. Maddocks 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 Resources Limited**

Tyranna Resources is an ASX listed diversified minerals exploration Company with a significant portfolio of assets at various stages of development.

Jumbuck JV (Tyranna Resources Limited – 77% / WPG Resources Limited – 23%)

Tyranna's Jumbuck Gold project controls 9,762 km² surrounding the Challenger Gold Mine (>1.2M Oz's gold produced @ 6g/t Au). The close proximity of Greenewood to the 1.2m oz Challenger Gold Mine is a key driver for Tyranna which aims to identify a similar analogue deposit. The Company target for the Jumbuck Gold Project is 500,000 oz Au and the Tyranna team has been steadily undertaking works on prospective targets to grow mineral resources (refer to Exploration Target Statement ASX announcement on 17 October 2016)¹.

#### Eureka Gold Mine

Tyranna announced the Eureka Gold Project acquisition in December 2017. A reserve/resource definition drilling program of approximately 1,500 – 2,000 metres will be drilled in two stages, scheduled to be completed by May/June 2018. The aim of this drilling program is to comply the historic mineral resource (as announced on 1st December 2017) with JORC 2012 and to provide geotechnical samples for structural information collection and interpretation and metallurgical test work, which will closely be followed by the commencement of a mining feasibility study.



Wilcherry Project JV (Alliance Resources Limited - 71.09% / Tyranna Resources Limited - 28.91%)

The Wilcherry Project contains the highly prospective Weednanna Prospect, where recent drilling program totalled 11,207m. Targets 1,2,3 and 4 have reported 43 out of 70 holes >1g/t with 14 holes returning >50g/t Au. Final results released (ASX Announcement 17th January 2018<sup>2</sup>) has confirmed a new high-grade gold zone within the project complex, returning significant results including:

- 35m @3.65 g/t Au from 43m,
- 6m @ 13.63 g/t Au from 59m,
- 15m @ 18.21 g/t Au from 107m and
- 3m @25.45 g/t Au from 81m including 1m @ 74.2 g/t Au from 81m.

Kairos Minerals Limited (ASX: KAI)

Tyranna is the 2nd largest shareholder in the Eric Sprott backed Kairos Minerals Ltd, holding 31.3 million, shares valued at \$1.2 million. Tyranna will earn another 7.2 million shares as a result of the First Milestone of 500,000 oz of gold identified on the Mt York tenements in the Pilbara region of Western Australia within three years of the acquisition date (see Kairos ASX announcement on 23 May 2018). Kairos' Pilbara Gold Mineral Resource (Total Indicated & Inferred Resource: 14.4Mt at 1.39g/t for 643,000oz Au)

Orinoco Gold Limited (ASX: OGX)

Orinoco is a Brazilian focused gold company targeting the mining of the Cascavel Gold Mine and exploration of the Faina Goldfields Project. Tyranna is the 4th largest shareholder in Orinoco, holding 19.1 million shares and Tyranna also holds a further 14.8 million options exercisable at \$0.11 on or before 31 January 2020.

- 1 The information is extracted from the report entitled 'Jumbuck Exploration Target Statement created on 17 October 2016 and is available to view on the ASX website under the TYX ticker symbol. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.'
- 2 The information is extracted from the report entitled 'Outstanding New High Grade Gold Shoot at Weednanna Confirmed' created on 17 January 2018 and is available to view on the ASX website under the AGS ticker symbol. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.'



### Appendix.1

### **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	Reverse Circulation (RC)  - used high pressure air and a cyclone with a cone splitter  - Sampling was taken on continuous 1m intervals  - 4m composite samples was completed by the contract laboratory  - Samples were transported to the laboratory in plastic bags  Diamond Drilling (DDH) diamond core was marked up on site and then delivered to Adelaide.
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	Drilling was carried out using a multipurpose RC / Diamond drill rig, with oriented HQ Diamond core collected.     Drilling was also done with aircore and RAB drilling techniques
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>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> <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>	All drill holes were geologically and geotechnically logged.
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	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 unmineralised 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  Aircore and RAB drilling was sampled with 4m composites with 1m sampling in mineralized and/or zones of interest
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.  Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Samples were submitted to Bureau Veritas laboratory in Adelaide     Analysis was by fire assay method FA001     This method is considered appropriate for this style of mineralisation



Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	The results are considered acceptable and reviewed by geologists.
and assaying	The use of twinned holes.	No adjustments to assay data have been undertaken.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	
	Discuss any adjustment to assay data.	
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Drill hole collar surveys and topographic surveys were carried out using a handheld GPS
	Specification of the grid system used.	The grid system is MGA94, zone 53
	Quality and adequacy of topographic control.	Topographic control at is considered adequate.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The drillholes are generally on drill lines spaced between 50-100m line spacing with holes at ~25m spacing's along lines.
distribution	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.	Some drilling is on 25m spaced lines at Golfbore and Greenewood
	Whether sample compositing has been applied.	Most drillholes are drilled perpendicular to the dip direction of the gold mineralisation
	This is a surprise son posting the soon applied.	The drill spacing and density is considered appropriate for the estimation and classification of these Mineral Resources.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> </ul>	The orientation of sampling is appropriate to the orientation of the mineralisation, though at this stage is not confirmed if the angle shows the exact true width
	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.	
Sample security	The measures taken to ensure sample security.	Samples were stored on site and transported to the laboratory in Adelaide
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or review has been conducted as yet

### **Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	The project comprises granted tenements EL4577,EL5526 and EL5183. These tenements are held in a JV between Tyranna (75%) and WPG Resources (25%)  The tenements are in good standing and no known impediments exist.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The area has been a target for mineral exploration since the 1990's by multiple companies. All of the known work has been appraised by Tyranna and has formed an important component of the company's assessment of the project.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <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</li> </ul>



Criteria	JO	RC Code explanation	Co	ommentary
				regional fold hinges
Drill hole Information	٠	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:	•	No individual drill hole results are reported in this announcement.
		o easting and northing of the drill hole collar		
		o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar		
		o dip and azimuth of the hole		
		o down hole length and interception depth		
		o hole length.		
	•	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.		
Data aggregation methods	•	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	•	No individual drill hole results are reported in this announcement.
	•	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.		
	•	The assumptions used for any reporting of metal equivalent values should be clearly stated.		
Relationship between mineralisation widths	•	These relationships are particularly important in the reporting of Exploration Results.	•	No individual drill hole results are reported in this announcement
and intercept lengths	•	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.		Drilling has generally been oriented perpendicular to the main strike. There may however be localized, high grade, plunging shoots that have not been adequately drilled to enable their orientation to be determined. These potential higher grade ore
	•	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').		zones have not been adequately diffied to enable their orientation to be determined. These potential rights grade one zones have not been modelled individually but have been incorporated into the overall mineralized zone.
Diagrams	•	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	•	Appropriate maps are included in main body of the report.
Balanced reporting	•	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	•	No individual drill hole results are reported in this announcement.
Other substantive exploration data	٠	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.	•	All relevant geological and geochemical data collected so far have been reported.
Further work	•	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step- out drilling).	٠	Further work is required which includes mapping and other exploration programs such as RC and Diamond drilling.
	•	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.		



### **Section 3 Estimation and Reporting of Mineral Resources**

Criteria	JORC Code explanation	Commentary												
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Tyranna geologists     Independent check database tables an resource estimation	king of databa	se validity ind	cluded: Con	, nparison of	assays betw	een nearby l	holes, check	ing for inte				
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.  If no site visits have been undertaken indicate why this is the case.	Mr Revell has visited has not visited the									ducted by T	yranna Res	ources. Mr	Maddocks
Geological interpretation	Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.  Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology.	<ul> <li>Assessment of the Jumbuck project is at a comparatively early stage and high grade 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 gunits.</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. Some areas, particularly the flat dippin supergene horizons, display continuity of mineralisation over several drill sections</li> </ul>					onal the							
Dimensions •	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral	Mineralised extents used for the current block model estimates have the following dimensions:												
	Resource.		Origin			Extents			Block Size Max			Block Size Min		
			East	North	RL	East m	North m	RLm	х	у	z	х	у	z
		Campfire Bore	381000	6722400	-50	850	2500	250	10	25	10	5	5	5
		Golf Bore	404330	6726200	-150	1900	1600	350	10	10	10	-	-	-
		Greenewood	377150	6721200	-100	750	750	300	2.5	2.5	2.5	5est	5est	5est
		Mainwood	376000	6720380	-150	1200	1000	380	10	10	10	-	-	-
		Typhoon	348420 349800	6657530 6656500	55	500 1300	430 1000	150 200	2.5	2.5	2.5	5est	5est	5est
		Monsoon	349800	6656500	0	1300	1000	200	10	10	5	- M in	M ax	-
			Searc	ch Dimension Semi	ns 1	Sea	rch Dimens Semi	ions 2	Sear	ch Orienta Semi	ition	Samples	Samples	Top cut
			M ajor	major	Minor	Major	major	Minor	Major	major	Minor			
		Campfire Bore	150	150	50	-	-	-	45	0	-90	2	15	20
		Golf Bore	40	25	40	150	40	150	48	0	-30	5(2)	25(15)	20
		Greenewood	40	20	40	100	20	100	50	0	-20	2	15	15
		Mainwood	75	25	75	-	-	-	40	0	-30	2	7	20
		Typhoon	50	15	25	-	-	-	64	0	-50	2	10	15
		Monsoon	50	30	5	-	-	-	50	0	0	3	15	10



Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> </ul>	Resources were estimated using Inverse Distance Squared (ID²).  Vulcan software was used for data compilation, domain wire-framing and for resource estimation.  The search direction and extents and top cuts applied are tabulated above  The estimation technique is appropriate for the mineralisation style.
	<ul> <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> <li>There has been no production from the project.</li> <li>A previous estimate was announced to the ASX on 24 January 2017 and contained a total of 219,000oz of Inferred Resources</li> </ul>
	The assumptions made regarding recovery of by-products  Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	Estimated resources make no assumptions about recovery of by-products.     The resource models include estimates for gold only. No deleterious elements were estimated
	<ul> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> </ul>	Block sizes are generally 10 x 10 x 10m. Greenewood and Typhoon have used 2.5 x 2.5m to better define narrow orezones. Some zones of supergene mineralisation were also modeled with 2.5m z direction blocks. Blocks, other than those in supergene zones, have been estimated using a parent size of 10x10x10m. Campfire bore used 25m long blocks along strike to reflect the dominant 50m spaced drilling
	Any assumptions behind modelling of selective mining units.	Selective Mining Units were not considered in the resource estimation.
	Any assumptions about correlation between variables	The modeling did not include specific assumptions about correlation between variables.
	Description of how the geological interpretation was used to control the resource estimates.	The mineralised domains used for resource estimation are consistent with geological interpretation of mineralisation controls.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to be composites before modelling. Top cuts of 15g/t and 20 g/t were applied.
	<ul> <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>	Model validation included visual comparison of model estimates and composite grades. There has been no production from the project for comparison.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry tonnage basis, with densities derived from immersion density measurements of air dried core samples. Where no measurements were available estimates have been made based on similar rock types and weathering. Generally oxide material is assigned 1.8t/m³, transitional 2.2 or 2.3t/m³ and fresh rock 2.7t/m³.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	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 open pit mining methods, gold prices, costs and recoveries.
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	It is envisaged that any potential extraction of these Mineral Resources will be via open pit mining methods. The resources are reported at a cut-off grade of 0.5g/t which is considered appropriate for open pit mining. The depth of modelled mineralisation is considered to have potential for eventual economic extraction via open pit mining.  The depth of modelled mineralisation is considered to have potential for eventual economic extraction via open pit mining.
Metallurgical factors or assumptions	<ul> <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>	Detailed metallurgical test work has yet to be carried out for any of the prospects in regards to this report.
Environmental factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status</li> </ul>	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.



Criteria	JORC Code explanation	Commentary
	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.	
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.  The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.  Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Estimated resources include densities of 1.8, 2.3 and 2.7 t/bcm for oxide, 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. Where no measurements were available estimates have been made based on similar rock types and weathering.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.  Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).  Whether the result appropriately reflects the Competent Person's view of the deposit.	<ul> <li>The current Mineral Resource estimates are all classified as Indicated or Inferred.</li> <li>Indicated resources have been determined by drill density and number of drillholes and samples utilized in grade estimation.</li> <li>25m spaced drilling with at least 3 drillholes and 5 samples has been used as the criteria for Indicated Resources at Greenewood and Golf Bore.</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	The results of any audits or reviews of Mineral Resource estimates.	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.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.  The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.  These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	<ul> <li>Confidence in the relative accuracy of the estimate is reflected by the categorization of most of the resources as Inferred.</li> <li>There is no clear understanding of geological controls over the distribution of high grades in primary material. This is due to paucity of drilling at depth.</li> <li>Additional closer spaced drilling into the primary zone will aid in determining the distribution and orientation of high grade ore zones. The current understanding is based on the Challenger gold deposit located nearby where mining has been progressing underground for several years on a narrow, steeply plunging high grade ore shoot.</li> <li>High grade shoots have not been delineated or modelled in this estimate. This estimate represents a 'bulk mining' approach. Additional geological and structural work combined with targeted drilling may well enable high grade ore zones to be delineated within the currently modelled lower grade domains.</li> </ul>