



ASX Announcement

6 March 2018

## Drilling Underway at Golden Star

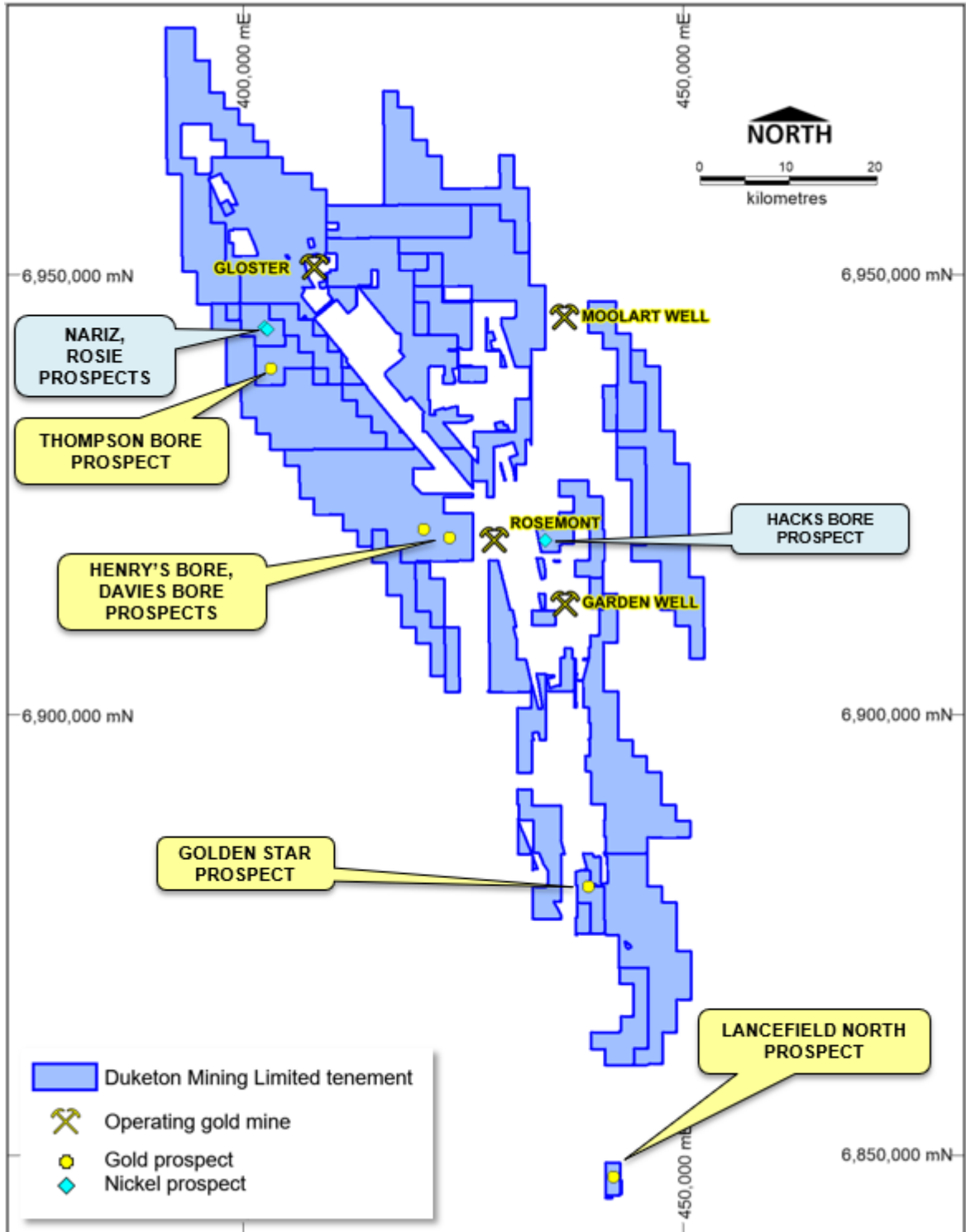
### HIGHLIGHTS

- **Two diamond holes completed**
  - Significant alteration, veining and sulphides
  - Geology consistent with previous RC holes
  - Assays expected 4-5 weeks
- **RC drilling commencing**
  - 3,200m planned
  - Drilling north and south of previous RC holes
  - Assays expected 6 weeks
- **Cyanide Leach check assays completed**
  - Confirms leachable gold
  - Assays over 1g/t Au reconcile at 100% to fire assay results
- **Petrology completed on select RC samples**
  - Host rock is interpreted to be leuco-gabbroic intrusive sheets and felsic intrusive units
  - Visible gold identified in some samples

Duketon Mining Limited (ASX: DKM) is pleased to announce that drilling is underway at the Golden Star prospect at the 100 percent owned Duketon Project, Western Australia. Two diamond drill holes have been completed and 3,200m of RC drilling is in progress.

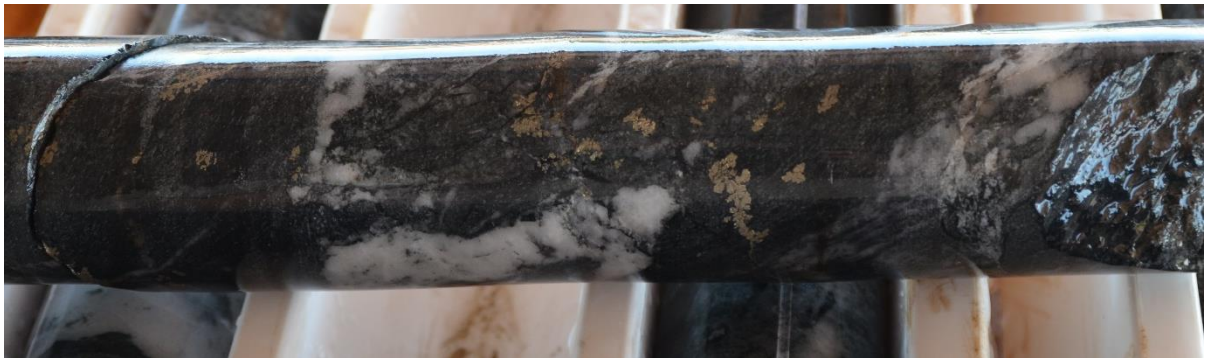
### Drilling

The diamond drill holes targeted mineralisation underneath previous RC drilling. There was significant alteration, sulphides and multiple evolutions of quartz, carbonate and sulphide veining logged within the diamond holes. The alteration and geology are broadly consistent with that seen in the RC drill holes however the new structural information suggests a complex and long-lived history of multiple events.





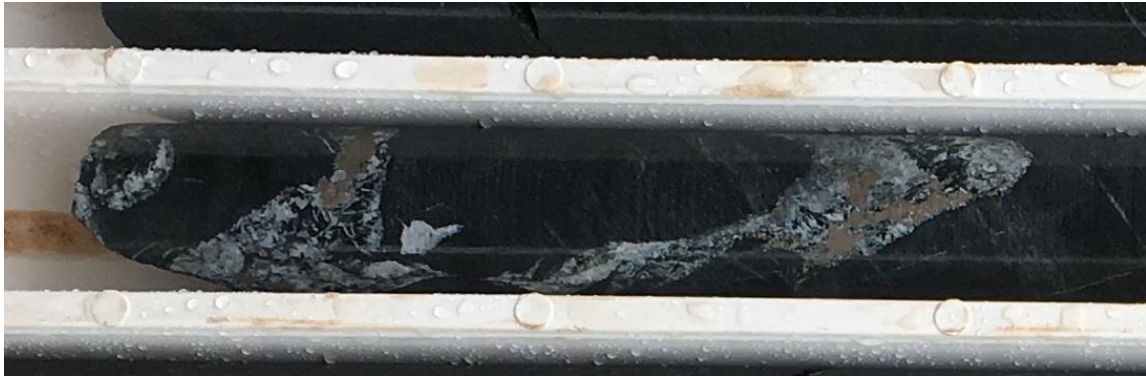
DKDD0007 63.6-68.3m – multiple quartz-sulphide-carbonate vein sets within a strongly foliated gabbro.



DKDD0007 88.5m – quartz-carbonate-pyrite brecciated veins within a strongly foliated gabbro.



DKRC0007 67m – Quartz-carbonate-sulphide-tourmaline brecciated veins in strongly foliated gabbro



DKDD0008 130m - quartz-sulphide veins in moderately foliated mafic

RC drilling at the prospect has commenced and will focus on the areas north and south of the previous RC drilling.

### **Cyanide Leach**

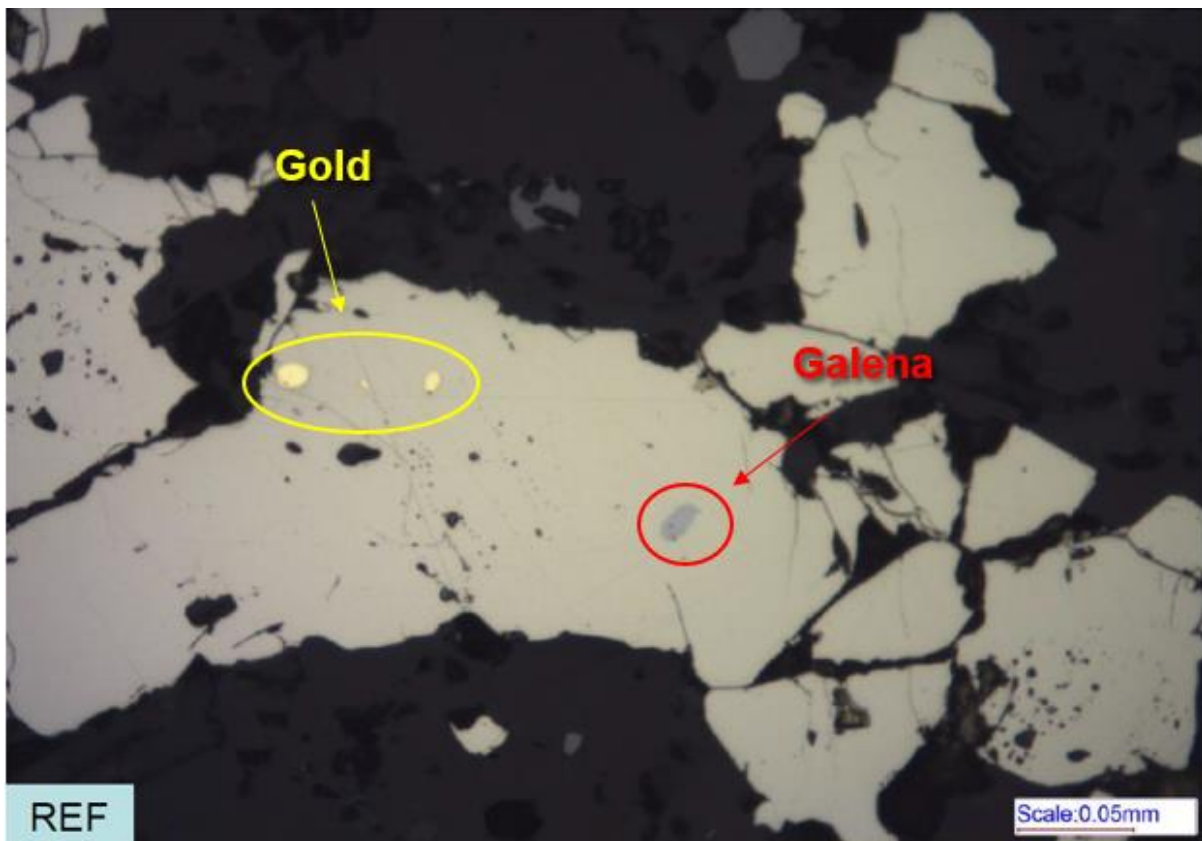
Twelve fresh rock samples were selected from recent drilling at Golden Star for cyanide (Leachwell) analysis. This Leachwell cyanide analysis is a preliminary tool used for assessing the basic leach characteristics of the ore. Comparison of the fire assay gold analyses with the Leachwell bottle roll analyses show an average recovery of 92%, samples >1g/t Au recovered at 100%.

Hole ID	Depth From	Depth To	Length (m)	Original Fire Assay Au g/t	Bottle Roll Residue ICP-MS Au g/t	% Au Recovery
DKRC0106	82	83	1	0.94	0.65	69%
DKRC0106	84	85	1	19.43	15.22	78%
DKRC0107	73	74	1	2.08	2.00	96%
DKRC0108	91	92	1	1.87	2.14	115%
DKRC0108	95	96	1	8.49	8.61	101%
DKRC0108	97	98	1	0.64	0.42	65%
DKRC0119	106	107	1	0.46	0.31	68%
DKRC0120	78	79	1	2.78	2.16	78%
DKRC0120	86	87	1	10.18	10.5	103%
DKRC0120	89	90	1	0.76	0.75	98%
DKRC0121	149	150	1	4.81	3.78	79%
DKRC0121	151	152	1	14.60	22.13	152%



### Petrography

Petrography was also completed on several RC samples from recent drilling at Golden Star. The geology at Golden Star is described as a sequence of sheet like gabbroic intrusions and felsic intrusive units, strongly foliated with gold mineralisation and the associated hydrothermal alteration interpreted to be structurally controlled. Dominant alteration assemblage is quartz-pyrite-carbonate-chlorite. Gold was observed in thin section within a pyrite grain at 83m in drillhole DKRC0106 (2.7g/t Au).



DKRC0106 83-84m – gold and galena within pyrite

For further enquiries, please contact:

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*The information in this report that relates to exploration results is based on information compiled by Miss Kirsty Culver, Member of the Australian Institute of Geoscientists (AIG) and an employee of Duketon Mining Limited. Miss Culver has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a competent person as defined in the JORC Code 2012. Miss Culver consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.*



JORC Table 1

## JORC Code, 2012 Edition – Table 1 report – Duketon Project

### Section 1 Sampling Techniques and Data – Golden Star - RC Drilling

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• RC drill chips were collected as composite samples (either 1m, 2m, 3m or 4m samples, approx. 2kg). RC drill chips were sampled by riffle splitting 1 metre calico bag samples off the rig. The sample was pulverised to 85% passing 75µm then a 200g sub-sample was taken for Leachwell testwork.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>• <i>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).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Refer to ASX announcement 19th December 2017.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Refer to ASX announcement 19th December 2017.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <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>	
<b>Logging</b>	<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>	Refer to ASX announcement 19th December 2017.
<b>Sub-sampling techniques and sample preparation</b>	<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>RC drill chips were collect as 1 metre samples from the rig cyclone and cone splitter to provide a 1 metre sample. Composite samples were collected using a riffle splitter.</li> <li>Sample condition with respect to moisture content is noted on the geological log.</li> <li>The entire sample (approx. 2kg) has been dried, pulverised to 85% passing 75µm.</li> <li>A 200g sub-sample was taken for Leachwell testwork. The sample was rolled for 4 hours using the Leachwell cyanide reagent at a 2:1 solution:solid ratio.</li> <li>After settling and centrifugation, the liquor is analysed for Au via ICP-MS method (detection limit 10ppb).</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<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>Samples were assayed using ICP-MS.</li> <li>Assays were returned for the following elements: Au.</li> <li>Repeat assays were carried out (1 in 5).</li> <li>Laboratory certified reference material (standards) were also inserted in the batch of samples.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Refer to ASX announcement 19<sup>th</sup> December 2017.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Refer to ASX announcement 19<sup>th</sup> December 2017.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Refer to ASX announcement 19<sup>th</sup> December 2017.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The orientation of the geology and mineralization at Golden Star is steeply dipping to the east, striking NNW.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Chain of custody was managed by company representatives and is considered appropriate. All samples are bagged in a tied numbered calico bag, grouped into larger polyweave bags and cable tied. Polyweave bags are placed into larger bulky bags with a sample submission sheet and tied shut. Consignment note and delivery address details are written on the side of the bag and delivered to Toll in Laverton. The bags are delivered directly to MinAnalytical in Canning Vale, WA who are NATA accredited for compliance with ISO/IEC17025:2005.</li> <li>• Selected 200 gram sub-samples were then couriered to LabWest in</li> </ul>

Criteria	JORC Code explanation	Commentary
		Malaga for Leachwell testwork.
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>No external audits or reviews have been conducted apart from internal company review.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>The tenement (E38/3098) is 100% owned by Duketon Mining Limited and is in good standing and there are no known impediments to obtaining a licence to operate in the area.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>Previous drilling at Golden Star was completed by BP Minerals Australia, Ashton Gold and Johnson's Well Mining. This work has been checked for quality as far as possible and formed the basis of the follow-up conducted as part of the drilling programme presented.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>The anomalies presented in the historic data are sourced from typical Archaean Greenstone rocks of the Yilgarn Craton. The recent drilling completed by Duketon Mining has confirmed this interpretation.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li><i>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:</i> <ul style="list-style-type: none"> <li><i>easting and northing of the drill hole collar</i></li> <li><i>elevation or RL (Reduced Level – elevation above sea level in</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Refer to table within the text of this announcement.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>metres) of the drill hole collar</p> <ul style="list-style-type: none"> <li>○ dip and azimuth of the hole</li> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> </ul>	
<b>Data aggregation methods</b>	<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 top-cuts have been applied when reporting results.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <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>• Refer to ASX announcement 19th December 2017.</li> </ul>
<b>Diagrams</b>	<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>• Refer to figures in document.</li> </ul>
<b>Balanced reporting</b>	<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>• Refer to ASX announcement 19th December 2017.</li> </ul>
<b>Other substantive exploration data</b>	<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</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to ASX announcement 19th December 2017.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>deleterious or contaminating substances.</i>	
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>Further work may involve drilling of deeper holes around the significant intervals presented and may also include testing along strike and in surrounding areas.</li> </ul>