

**ASX RELEASE** 

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# DRILLING CONFIRMS DIAGNOSTIC CHARACTERISTICS OF A PORPHYRY COPPER-GOLD SYSTEM AT MONGAI CREEK

## **HIGHLIGHTS:**

- ✓ Diagnostic characteristics of a porphyry copper-gold system confirmed in discovery diamond drill hole at Mongai Creek
- √ Visible copper and molybdenite mineralisation observed in drill core
- ✓ New porphyry system is 77km north-east of the world-class 24 million ounce Porgera Gold Mine
- ✓ Drill core being priority sampled for dispatch to ALS Townsville
- ✓ Drilling continues to identify additional vectors to the 'hotter', potentially higher-grade part of the mineralised system

The Board of Gold Mountain Limited, (ASX: GMN) is pleased to announce the maiden diamond drill hole at Mongai Creek has confirmed diagnostic characteristics of a porphyry copper-gold system 77km northeast of 24 million-ounce Porgera Gold Mine. This significant discovery is the result of the Company's expanded, aggressive exploration program (Exploration Licence 2306, Abundance Valley leases). A permanent helicopter-supported camp has been established, manned by geologists and two drilling crews. This highly prospective, potentially large-scale porphyry Cu-Au system is located in a gold-endowed region of a world-class mining jurisdiction of the Western Highlands of Papua New Guinea.

Following the early success of this intial diamond drill hole, field data is being evaluated to identify several follow-up drill targets in the Mongai Creek Porphyry Cu-Au Project.

The drill core shows extensive development of stockworked and sheeted quartz-pyrite veins in a microdiorite with minor intervals of porphyritic diorite. Minor chalcopyrite and bornite are present in some veins.



The Company notes that until assay results are available from the laboraotry, it is uncertrain that the grades and mineralised intervals are of economic importance. The mineralisation is encountered over an 69.2m interval down the hole to current down-hole depth at 279.9m and true widths of intersections are unknown at this stage.

The core exhibits the signature alteration suites of large PNG porphyry systems and in places comprises earlier potassic alteration (associated with reddy-brown hydrothermal biotite, Figures 4-7) overprinted by later stage pyrite-quartz veins with phyllic alteration selvages. Anomalous copper (Cu, several hundred ppm) and molybdenum (Mo), measured by portable XRF analyses, are associated with intense veining, alteration and silica flooding.

Previously reported field work (ASX Release 13/06/2018 Strong indications of large porphyry Gold-Copper system<sup>1</sup>) mapped mineralised outcrops contained within a semi-elliptical rim structure of 1.6 km x 1.2 km. Drainage sheds from both sides of the narrow elliptical rim (Figure 2). This field work has confirmed abundant alluvial gold in the drainage system of the Mongai Creek valley that contains extensive diorite-hosted hydrothermal quartz-pyrite vein mineralisation associated with a zone of potassic alteration with minor copper (bornite, chalcopyrites, chalcocite) and molybdenum minerals.

Recent field investigations have identified additional areas with copper mineralisation (bornite and chalcopyrite) outside the semi-elliptical elevated rim surrounding the Mongai Creek mineral system. It is highly probable the mineralised structures extend to the north, north-west of the present known extent of the large-scale system. Field parties are being mobilised to sample and map these potential new extensions.

Tony Teng, Managing Director stated: "Our geologists tell me this significant discovery has "DNA" akin to some of the other large copper-gold deposits of PNG. This discovery will be a major turning point for the company. I believe Gold Mountain has a 'Tiger by the tail'".

Exploration Director Doug Smith stated: "This drill hole has intersected diagnostic characteristics that confirm we have discovered a potentially large-scale porphyry copper-gold system. I consider it is now only matter of time until we vector towards the higher-grade copper and gold zones."

<sup>&</sup>lt;sup>1</sup> The Company is not aware of any new information or data that materially affects the information included in the market announcement of 13 June 2018 referred to in this announcement.





Figure 1: Location of Mongai Creek Porphyry Gold-Copper System relative to major World Class 24Moz Porgera Gold Mine

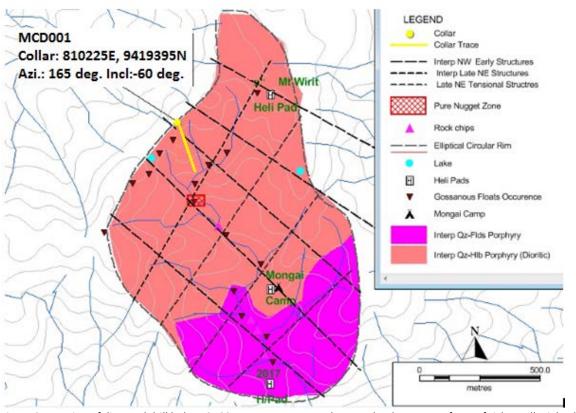


Figure 2: Location of diamond drill hole MCD001 to test structures that may be the source of one of richest alluvial gold areas discovered by artisanal miners in Mongai Creek (named the Pure Nugget Zone by locals)





Figure 3: 4cm wide quartz-pyrite vein in phyllic altered microdiorite (centre of vein 77.7 metres down hole in Mongai Creek Porphyry Copper-Gold System (Diamond drill hole MCD001. Scale: centimetres, millimetres)



Figure 4: Potassic alteration (reddy-brown) overprinted by sheeted and stockworked pyrite-quartz veins with phyllic alteration selvages in microdiorite. Potassic alteration is a significant diagnostic characteristic of porphyry copper-gold systems (Diamond drill hole MCD001, RHS of core 78.30 metres downhole. Scale: upper scale: inches; lower scale: centimetres).





Figure 5: Detail of core in Figure 4 above showing earlier stage higher temperature reddy-brown potassic alteration overprinted by late stage pyrite-quartz veins (Diamond drill hole MCD001, refer to photo above for relative downhole depth. Scale: upper scale: inches; lower scale: centimetres).



Figure 6: Detail of core in Figure 4 above showing earlier stage higher temperature reddy-brown potassic alteration overprinted by late stage pyrite-quartz veins (Diamond drill hole MCD001, refer to photo above for relative downhole depth. Scale: centimetres, millimetres)





Figure 7: Detail of core in Figure 4 above showing earlier stage higher temperature reddy-brown potassic alteration overprinted by late stage pyrite-quartz veins (Diamond drill hole MCD001, refer to photo above for relative downhole depth. Scale: centimetres, millimetres).



scale: inches; lower scale: centimetres).





Figure 9: Murray Hutton Principal Consultant Geologist, Geos Mining, discussing core with national geologists. Mast of QED drill rig in background.



Figure 10 Diamond drill hole MCD001; QED daimond drill rig, Mongai Creek



#### Diamond drill hole (MCD-001)

Hole ID	Easting WGS64 Zone 54S	Northing WGS64 Zone 54S	RL (m)	Azimuth (mag) deg	Inclination (deg)	Target Depth	Comments
MCD001	810225	9419395	1860	165	-60	500+	Test NW-SE, NE-SW, possilbe dilational jog and porphyry mineralisation

Table 1: Diamond drill hole MCD001, targeted to intersect structures (NW and NE) and the porphyry Cu-Au-Mo.

#### Competent Person's Statement

Statements contained in this report relating to exploration results and potential are based on information compiled by Doug Smith, who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Doug is a consultant geologist and has sufficient relevant experience in relation to the mineralisation styles being reported on to qualify as a Competent Person as defined in the Australian Code for Reporting of Identified Mineral resources and Ore reserves (JORC Code 2012). Doug Smith consents to the use of this information in this report in the form and context in which it appears.

#### **About Gold Mountain**

Gold Mountain Limited is an Australian-based minerals exploration and development company which is listed on the Australian Securities Exchange (ASX Code: GMN). Gold Mountain's principal exploration project is in Papua New Guinea, where the Company is exploring and developing a number of highly promising mineralised zones (Figures 1, 14-16).

Gold Mountain holds substantial areas within the fertile Gold-Copper endowed Papuan Mobile Belt that includes world-class mines (Figure 14). The majority of the areas within the Exploration Licences (ELs) have never been explored using modern technology. Multiple targets have been identified over the licence area of nearly 2,000 km². Early success indicates significant scale of potential discoveries within the ELs:

- the Flagship Crown Ridge project, with final-stage assessment of potentially high cash-flow free gold and platinum in conglomerate;
- discovery of large porphyry system at Mongai Creek; and
- newly discovered (refer to ASX announcement 5 March 2018) mineralised floaters from a low-sulphidation epithermal gold system at Lialam.

Large areas remain to be assessed.



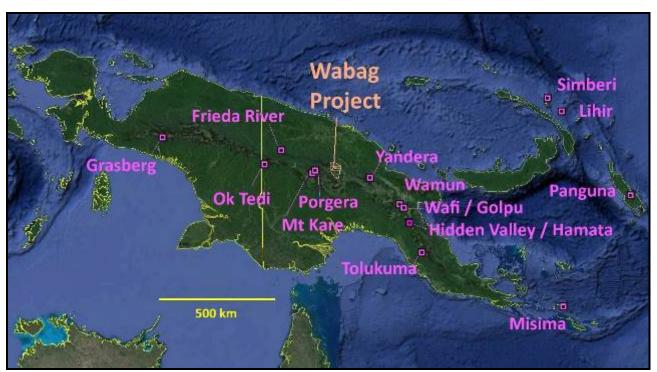


Figure 14: Location of the Wabag Project relative to major world class gold mines in Papua New Guinea

## World Class Mineral Deposits to the West of the Mongai Creek Porphyry Cu-Au Project include:

• **Ok Tedi**: 17Moz Au, 3.8Mt Cu

• Porgera: 24Moz Au, Porphyry & Low Sulphidation Epithermal Gold System

• Frieda River: 17Moz Au Moz Au, 12.9Mt Cu



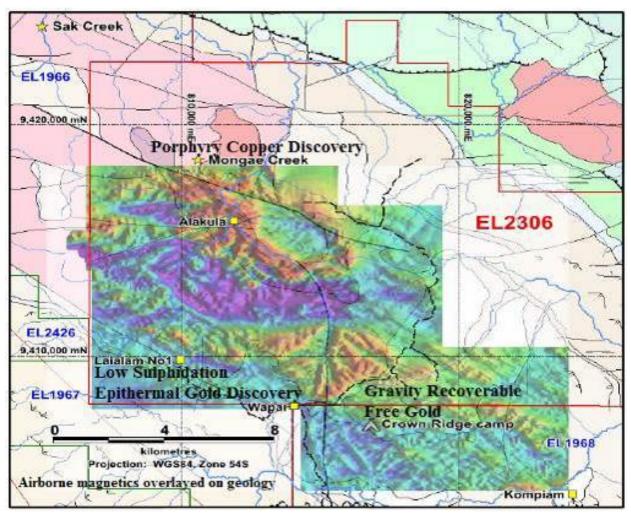


Figure 15: Expanded exploration program to agressively investigate other potential mineral systems including at Laialam and Mongai Creek



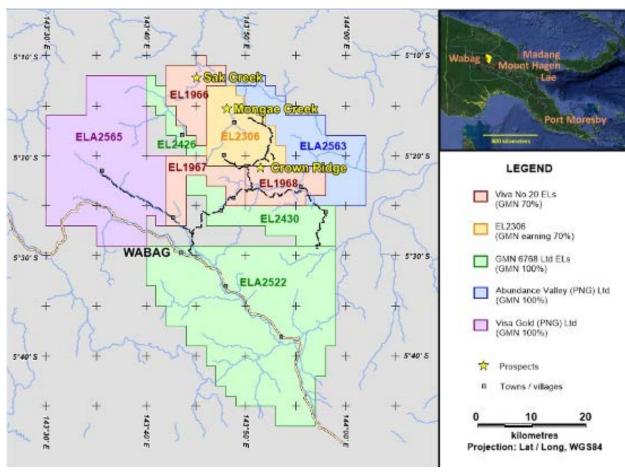


Figure 16: Exploration Licences cover substantial areas within the fertile Gold-Copper endowed Papuan Mobile Belt that includes world class mines



### Forward-Looking Statements

All statements other than statements of historical fact used in this announcement, including, without limitation, statements regarding future plans and objectives of Gold Mountain Limited are forward-looking statements. When used in this announcement, forward-looking statements can be identified by words such as 'may', 'could', 'believes', 'estimates', 'targets', 'expects' or 'intends' and other similar words that involve risks and uncertainties.

These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this announcement, are expected to take place. Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the company, its directors and management of Gold Mountain Limited that could cause Gold Mountain Limited's actual results to differ materially from the results expressed or anticipated in these statements.

Gold Mountain Limited cannot and does not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this announcement will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements. Gold Mountain Limited does not undertake to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this announcement, except where required by applicable law and stock exchange listing requirements.

### For further information please see our website www.goldmountainltd.com.au or contact:

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# JORC Code, 2012 Edition – Table 1

# **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques  Drilling	<ul> <li>Nature and quality of sampling (e.g. 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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</li> <li>Drill type (e.g. core, reverse circulation,</li> </ul>	Diamond drilling to obtain PQ and HQ core samples that have been logged for alteration and structure  Samples collected from floats and outcrop via rock chipping  Concentrate samples prepared using panning on site.
techniques	open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).	triple tube PQ/HQ equipment
Drill sample	Method of recording and assessing core and chip sample recoveries and results	Recovery measured



Criteria	JORC Code explanation	Commentary
recovery	<ul> <li>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>	for each drill run
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>	Drill core logging of lithologies, structures, alteration veining and mineralisation.
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</li> </ul>	Drillhole sampling will be done by splitting core in half using a diamond core saw.



Criteria	JORC Code explanation	Commentary
	sampled.	
Quality of assay data and laboratory tests	<ul> <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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>No assay results are reported in this announcement.</li> <li>Samples have not been tested by laboratories. Diamond drill core and selected floaters, field rock chip and pan concentrates were generated.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <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> <li>No quality control sampling has been undertaken to date.</li> <li>Samples will be sent to Australian Laboratory Services for analyses.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Drillhole collar positions were determined by handheld GPS readings (accuracy +/- 5m) and recorded in WGS84, Zone 54S datum.</li> <li>Sample locations were recorded by conventional GPS, which is fit for the purpose of this stage</li> </ul>



Criteria	JORC Code explanation	Commentary
		of exploration.  • Good topographic control is not yet available.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	Data spacing is not relevant for this stage of exploration. It is not sufficient for Resource Estimation purposes.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The orientation of samples is not likely to bias the assay results</li> <li>Samples are from outcrop and have no relevance with regards to orientation as they are chip samples.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples are currently stored in a locked shed at the Crown ridge camp. Batches of samples will be transported by company personnel to Mount Hagen and despatched by courier to the analytical Laboratory.</li> <li>Sample security was ensured through Chain of Custody SOPs</li> </ul>



Criteria	JORC Code explanation	Commentary
		and managed by senior GMN personnel on site.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews     have been carried out.

# Section 2 Reporting of Exploration Results

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

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>	EL2306 was granted to Khor Eng Hock & Sons (PNG) Limited (KEH) on 14 December 2015. Gold Mountain Limited (ASX:GMN) is the manager of the exploration programs under an agreement with KEH. The tenement covers 96 sub-blocks (328 km2) in Enga Province in the Highlands Region of Papua New Guinea. Application for renewal of 48 sub-blocks (164 km2) was submitted to MRA on 25 August 2017.
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	All exploration programs conducted by Gold Mountain Limited
Geology	Deposit type, geological setting and style of mineralisation.	EL2306 contains potential for potential for porphyry copper-gold deposits, intrusive-related gold and epithermal gold deposits, structurally-controlled gold lode deposits and alluvial gold-platinum deposits.
Drill hole Information	<ul> <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:</li> <li>easting and northing of</li> </ul>	Drilling by QED using an Atlas Copco track-mounted CS14 Drill Rig running triple tube PQ / HQ drill rods.  Collar co-ordinates, inclination, azimuth and depth presented in Figure 2 of this announcement.



Criteria	JORC Code explanation	Commentary
Data aggregation methods	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.  • In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.  • Where aggregate intercepts incorporate short lengths of high 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	No assay results or data aggregation methods included as part of this release.  No material information is excluded.  No grade intersections have been reported as part of this release.
Relationship between mineralisation widths and	stated.	No assay results included as part of this release  No material information is excluded.  No grade intersections have been reported as part of this release.
intercept lengths Diagrams	Type, reference     name/number, location and     ownership including	Maps showing the location of the Mongai Creek prospect within the Wabag suite of tenements



Criteria	JORC Code explanation	Commentary
	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.  • 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.	and the locations of the drill holes (completed and proposed) at Mongai Creek are presented in this announcement
Balanced reporting	Acknowledgment and appraisal of exploration by other parties.	No assay results included as part of this release, hence no reported grade intersections.
Other substantive exploration data	Deposit type, geological setting and style of mineralisation.	Previous geological fieldwork comprising geological mapping of rocks types, alteration and structures identified a potential porphyry copper-gold system
Further work	<ul> <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:</li> </ul>	Geochemical sampling and geological mapping to detect other areas of potential gold mineralisation and location of further drill holes.
	<ul> <li>easting and northing of the drill hole collar</li> </ul>	
	<ul> <li>elevation or RL (Reduced Level - elevation above sea level in metres) of the drill hole collar</li> </ul>	
	o dip and azimuth of the hole	
	<ul> <li>down hole length and interception depth</li> </ul>	
	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.	