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#### **Projects**

### Lithium Projects (Brazil)

Cococi region Custodia Iquatu region Jacurici Juremal region Salinas region Salitre Serido Belt

#### **Copper Projects (Brazil)**





# ASX Announcement/Press Release | 28 October 2024

**Gold Mountain Limited (ASX:GMN)** 

### Porphyry System defined on Mamba Creek Target, Wabaq, PNG

Gold Mountain Limited (ASX: GMN) ("Gold Mountain" or "the Company" or "GMN") is excited to announce it has identified a new epithermal/porphyry system on its Mamba Creek target, first recognised from the EU GEOMAP Program in 2007-9.

A stream sediment and rock chip sampling program was carried out successfully at Mamba Creek with epithermal type gold mineralization found and copper and Pathfinder element anomalies indicating a porphyry system.

## Highlights

- Epithermal vein style mineralization found in a creek with gold workings and weakly mineralized probable outer porphyry zone intrusive rocks.
- A zonal pattern of copper, zinc and bismuth recognised, indicating a porphyry system is present.
- A magnetic high surrounded by a magnetic low is present suggesting a magnetite destructive zone is present which is also indicated by iron analyses.

### **Future Workplan**

- Additional more detailed stream sediment sampling will be undertaken to close off the anomalies found so far at Mamba Creek.
- Ridge and spur soil sampling will be undertaken in the Cu/Zn ratio and bismuth anomaly area and follow up to find the mineralised epithermal vein float will be undertaken.
- Potential for both epithermal and porphyry mineralisation has been demonstrated and detailed geochemical sampling and mapping is required to focus on the centres of mineralisation.

The Wabaq tenements lie within the highly productive Papuan Fold Belt which contains several world class porphyry copper deposits, several large, world class epithermal gold deposits and is grossly underexplored.

Regionally, deposits are mainly associated with Miocene to Pliocene intrusives of the Maramuni Intrusive Suite. The Wale Intrusive Complex in the GMN tenements is part of the Maramuni intrusive suite and consists of a composite body ranging from gabbro to diorites and tonalites.

The Timun Conglomerate is a well-known gold bearing conglomerate, that contains gold nuggets which come from an epithermal source or sources.

The main rock types in the conglomerate include pyroxene gabbro, diorite and tonalite, rock types that are common in the Wale Batholith north of Crown Ridge where GMN recovered epithermal gold nuggets (ASX release 5 March 2018). These are the same rock types mapped while sampling at Mamba Creek. At least two different intrusive bodies were interpreted to be present as well as basalts.

An epithermal gold bearing clast composed of massive magnetite – pyrite – chalcopyrite was found in the headwaters of Mamba Creek, part of the interpreted catchment of the gold bearing Timun Conglomerate that has produced some spectacular specimens of



alluvial epithermal gold (ASX release 5 March 2018).

A magnetic high surrounded by a magnetic low was interpreted from helicopter airborne data acquired and reported on by GMN in 2017. High copper, Cu/Zn and bismuth (Bi) were found to lie in the magnetic low surrounding the magnetic high with iron analyses focussed on the magnetic high which is a common feature in porphyry systems. This geophysical signature combined with the geochemical data is strongly suggestive of a porphyry and epithermal system being present.

### **Images & Maps**

Figure 1 shows the location of the tenements and location of the project area in PNG.

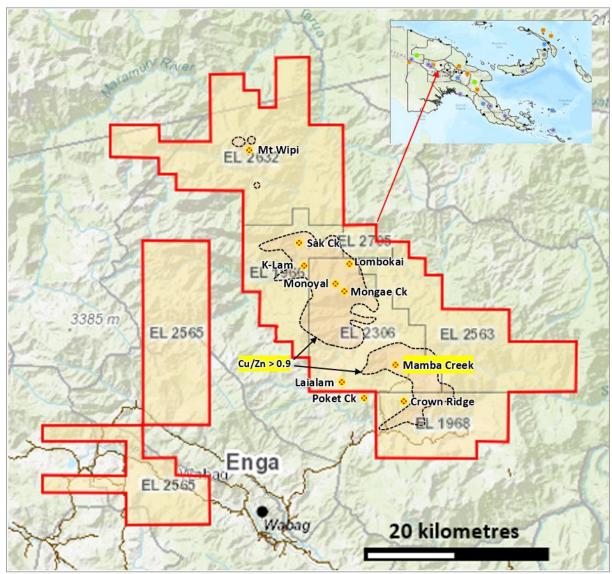


Figure 1. Location of GMN tenements and major Cu/Zn anomalies at Wabag in Enga and East Sepik provinces (MRA website).



Figure 2 shows the regional geology and the location of Mamba creek in relation to the mapped geology.

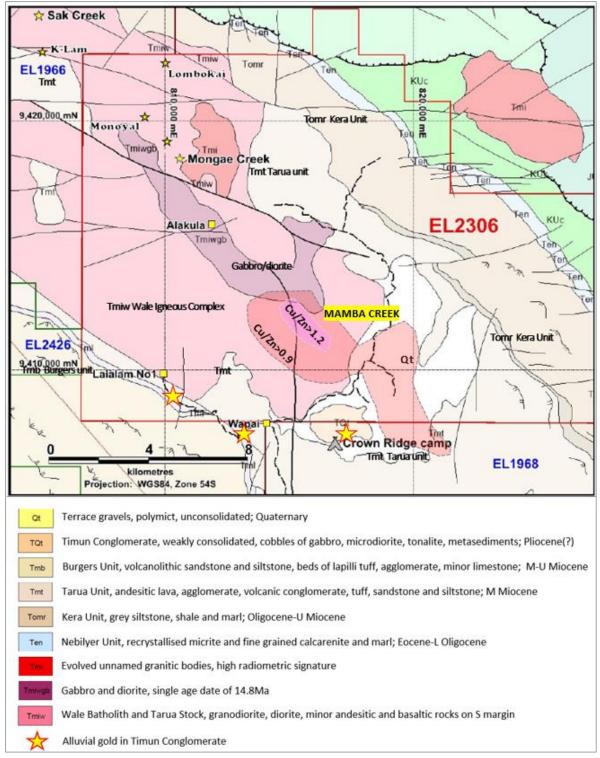


Figure 2. Location of Mamba Creek project and the EU Cu/Zn anomalies coincident with high order copper anomalies over regional geology.

The north trending major structure passing through Mamba Creek anomalies turns into an arc parallel NW trend in the vicinity of the geochemical anomalies. This structure, together with numerous smaller structures, may have provided a plumbing system for the mineralisation indicated by the regional geochemical data.



Figure 3 shows the interpreted anomalies and previous drainage responsible for deposition of the gold nugget bearing Timun Conglomerate. The gabbroic unit within the Wale Batholith appears to be the source of the pyroxene gabbro clasts in the Timun Conglomerate, which has a measured southerly dip at one exposure.

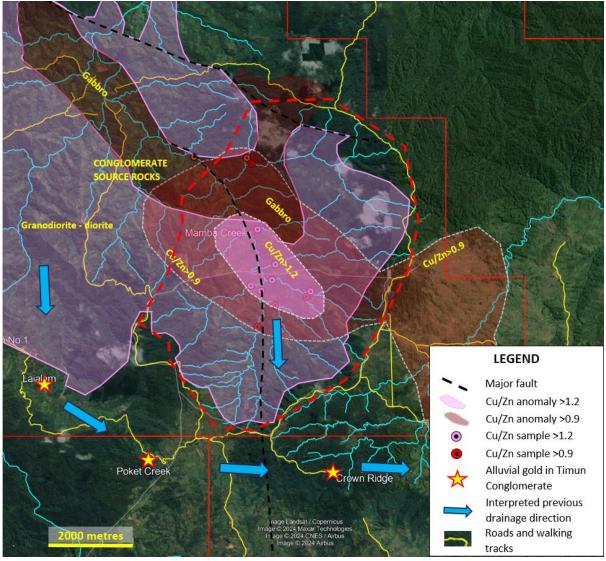


Figure 3. Mamba Creek sampled area (red dashed outline) EU sample Cu/Zn anomalies, Timun conglomerate source rocks and interpreted previous drainage directions.



Figure 4 shows the detail of the magnetic high in the centre of the sampled area and Cu/Zn anomalies associated with the magnetic low or fault zones.

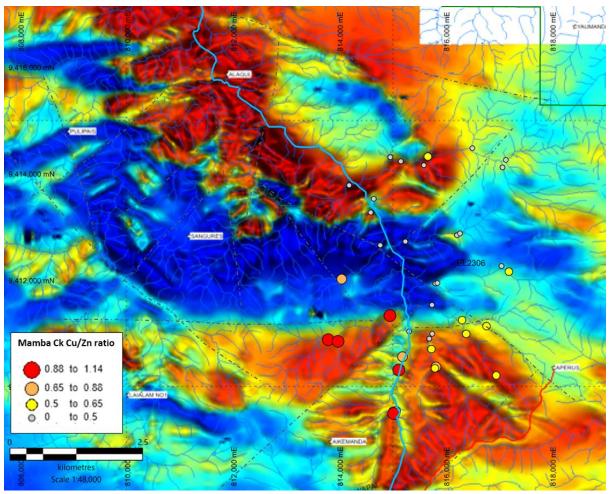


Figure 4. Magnetic image of TMI RTP and the low Cu/Zn associated with the magnetic high. Mamba Creek in blue for reference.



The interpreted 3D magnetic section (ASX release 27 February 2017) shows a probable intrusive body located in the middle of the magnetic high shown on the plan view in figure 5.

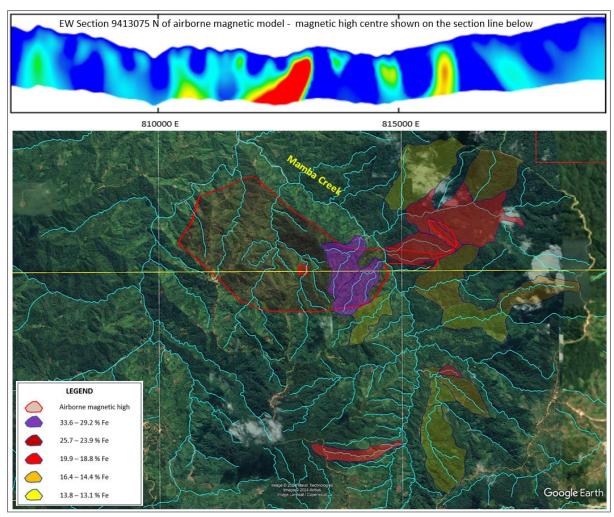


Figure 5. Plan and section through the 3D modelling of aeromagnetic data over Mamba Ck and the location of iron anomalies mainly associated with the magnetic high.



Figure 6 shows copper anomalies together with gold and silver anomalies.

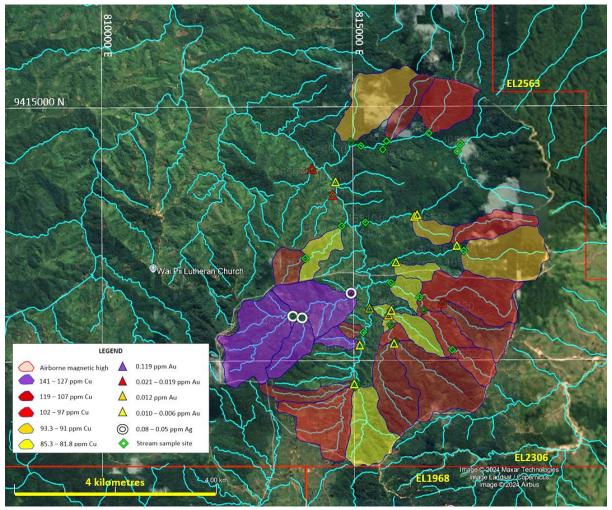


Figure 6. Mamba Creek copper, gold and silver anomalies.



Figure 7 shows the Cu/Zn ratio, which is a good indicator of porphyry systems and tends to be high over the hottest and potentially most strongly mineralised areas. Additional ratios like the Pb/Zn show a lowering over the hotter parts of the porphyry system.

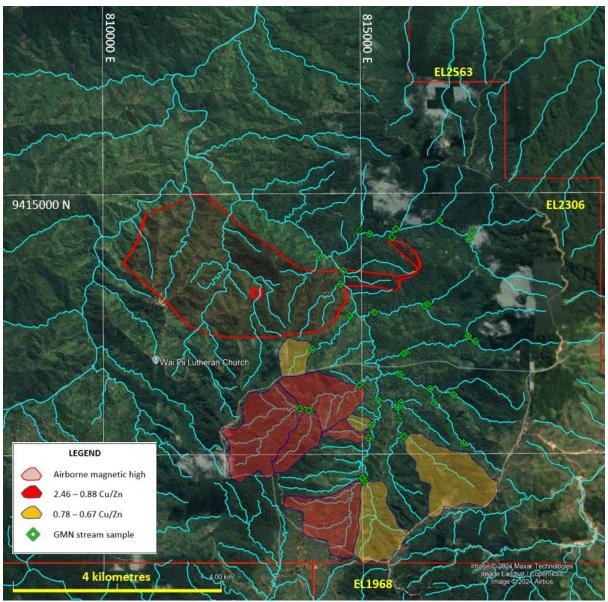


Figure 7. Mamba Creek Cu/Zn ratio and the magnetic anomaly.



Figure 8 shows the Pb/Zn ratio, which is low over the hotter parts of the porphyry system and higher in the cooler parts.

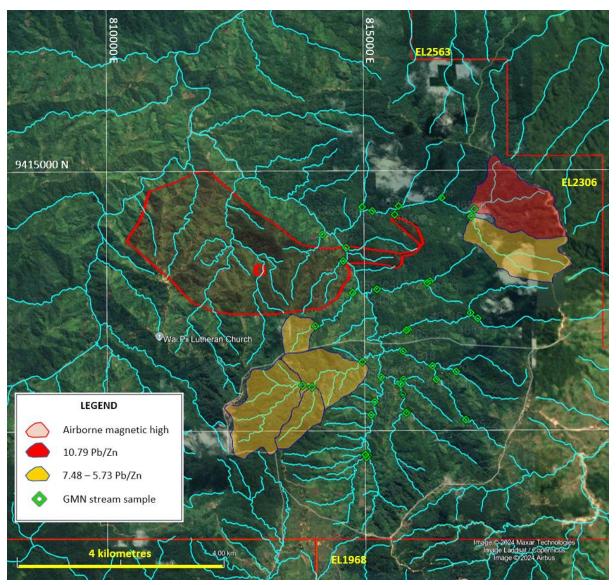


Figure 8. Mamba Creek Pb/Zn ratio and the magnetic anomaly.

The high Cu/Zn and coincident low Pb/Zn indicate a hotter part of the porphyry system. However, a rock chip float sample (46203) taken at the location of the stream sediment samples in the centre of the Pb/Zn anomaly south of the magnetic anomaly was of a massive magnetite-pyrite-minor chalcopyrite rock which had 1.4 g/t gold and high arsenic indicating an epithermal signature. Weakly pyrite and chalcopyrite bearing intrusive bedrock was sampled at four localities with increasing pyrite content seen in bedrock close to the epithermal vein float sample.



Table 1 shows rock chip sample details.

Sample ID	Easting	Northing	Au	As	Bi	Cu	Fe	Li	Мо	Pb	S	Zn	Mineralisation	Outcrop type
			ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm		
46203	813794	9410880	1.4	1772	13.4	346	26.5	29.6	2	5.6	25.4	79	magnetite, pyrite, chalcopyrite	tonalite/diorite
46204	815266	9411537	0.014	25.4	0.17	111	6.71	33.6	0.9	3.2	0.91	76	chalcopyrite (tr)	tonalite/diorite
46205	813794	9410880	<0.005	13	0.45	121	7.2	6.1	1.3	3.9	0.81	68	pyrite (increasing)	tonalite/diorite
46206	815937	9411424	0.011	45.5	0.28	132	7.16	27	1.3	3.4	1.48	55	quartz carbonate	diorite
46207	813972	9410870	0.006	15.7	0.54	138	7.54	13.5	0.8	16.2	0.21	130	pyrite, chalcopyrite	tonalite/diorite
46208	815021	9409962	<0.005	0.9	0.07	144	7.45	13.8	0.4	5.6	0.11	95	pyrite, chalcopyrite	intrusive
46209	814648	9413523	<0.005	1.2	0.06	72.1	9.23	9.8	0.4	6.9	<0.05	93	•	-

Table 1. Rock chip sample selected analytical values.

Figure 9 shows the locations of the rock chip samples.

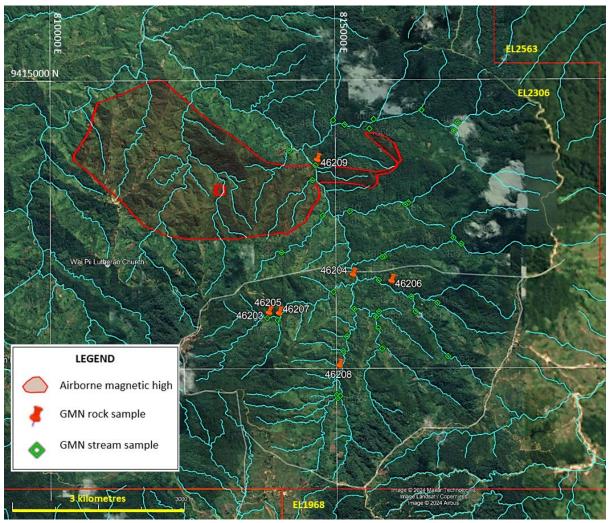


Figure 9. Mamba Creek rock chip sample locations.

The future proposed program is ridge and spur sampling in the area around the high Cu/Zn anomaly and the epithermal vein type float sample. This area has artisanal gold workings, with the mineralised epithermal vein float sample indicative of the style of mineralisation originally targeted in the Mamba Creek area.

The initial ridge and spur sampling program to search for the source of the epithermal float sample is approximately 7.4 line km as shown on figure 10.



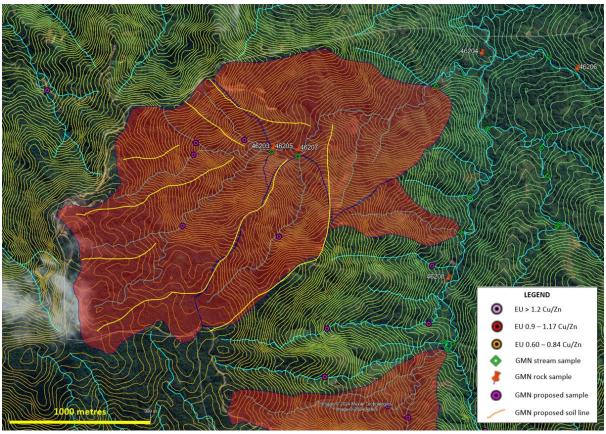


Figure 10. Planned soil sampling lines over the highest Cu/Zn ratio anomaly.

Infill stream sediment sampling is also proposed to further assess the porphyry potential and to close off the anomalies found in the initial highly successful stream sediment program. This program is shown on figure 11.



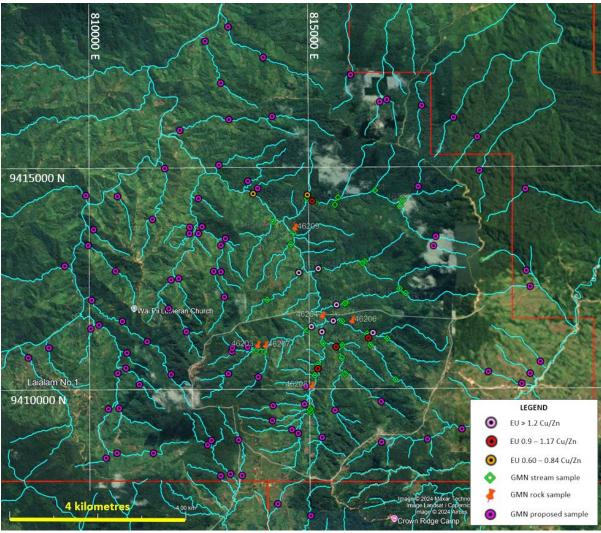


Figure 11. Planned follow up stream sediment samples in Mamba Creek and the locations of sample previously taken by the EU and by GMN.

### **Competent Persons Statement**

The information in this ASX release information compiled by Peter Temby, a Competent Person who is a Member of Australian Institute of Geoscientists. Peter Temby is an independent consultant working currently for Gold Mountain Ltd. Peter Temby confirms there is no potential for a conflict of interest in acting as the Competent Person. Peter Temby 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 Exploration Results, Mineral Resources and Ore Reserves'. Peter Temby consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

- END -

This ASX announcement has been authorised by the Board of Gold Mountain Limited

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#### **About Us**

Gold Mountain (ASX:GMN) is a mineral explorer with projects based in Brazil and Papua New Guinea (PNG). These assets, which are highly prospective for a range of metals including rare earth elements, niobium, lithium, nickel, copper and gold, are now actively being explored.

Gold Mountain has gradually diversified its project portfolio. The Company has highly prospective rare earth elements (REE), niobium, copper and lithium licenses located within the eastern Brazilian lithium belt, spread over parts of the Borborema Province and São Francisco craton in north-eastern Brazil including in Salinas, Mines Gerais.

In PNG, Gold Mountain is exploring the Wabag Project, which covers approximately 950km² of highly prospective exploration ground in the Papuan Mobile belt. This project contains three targets, Mt Wipi, Monoyal and Sak Creek, all lying within a northwest-southeast striking structural corridor. The three prospects have significant potential to host a porphyry copper-gold-molybdenum system and, or a copper-gold skarn system. Gold Mountain's current focus is Mongae Creek, which has been subjected to several phases of exploration, and the potential to host a significant copper-gold deposit is high. The current secondary targets are, in order of priority, Mt Wipi, Lombokai and Sak Creek. A new target, potentially another epithermal/porphyry system, has been identified at Mamba Creek.

Gold Mountain has also applied for a total of 1,048 km² in two exploration licences at Green River where high-grade Cu-Au and Pb-Zn float has been found and porphyry style mineralisation was identified by previous explorers. Intrusive float, considered to be equivalent to the hosts of the majority of Cu and Au deposits in mainland PNG, was also previously identified in one of the tenements which has now been granted.

### List of references

Davies H, 1983. 1:250,000 Geological Series - Explanatory Notes, Wabag, Papua New Guinea, Sheet SB/54-8. Department of Minerals and Energy, Geological Survey of Papua New Guinea.

Garwin S, 2023. Wabag Project, Papua New Guinea: Geoscientific Interpretation and Assessment of Prospectivity. Presentation to Gold Mountain Limited, 24th of July, 2023.

Garwin S, Hall R, Watanabe Y, 2005. Tectonic Setting, Geology, and Gold and Copper Mineralization in Cenozoic Magmatic Arcs of Southeast Asia and the West Pacific.

Gold Mountain Limited ASX release, 15 August 2024. Mamba Creek Gold Exploration started at Wabag PNG

Gold Mountain Limited ASX release, 9 May 2024. Wabag major review re-interprets at least 3 Porphyry systems

Gold Mountain Limited ASX release, 5 March 2018. Bonanza Grade Type Gold Nuggets Discovered at Crown Ridge

Gold Mountain Limited ASX release, 17 May 2018 Bonanza Gold Discoveries Extended, Aggressive Exploration Program to Locate Source

Gold Mountain Limited ASX release 27 Feb 2017. 3D Magnetic Model and Results following Helimag Survey.



Gold Mountain Limited ASX release, 12 January 2017 Intensive Bulk Sampling ramps up at Crown Ridge

Gold Mountain Limited ASX release, 15 February 2017 More Gold and Platinum and a Hard Rock Sample recovered from Bulk Sampling at Crown Ridge

Hoeflaken van F, Dobmeier CJ, 2012. 1:100 000 Geological map publication series of Papua New Guinea, Sheet 7687 Wabaq. Port Moresby: Mineral Resources Authority.

Hutton M, 2015. Annual Report to 27/11/2015, EL1968 Wabag 3, 28 November 2014 to 27 November 2015, Viva No 20 Limited.

Simpson C 2015. Petrographic Description of Ten Outcrop Samples from the Timun Conglomerate – Crown Ridge Prospect, PNG. Report prepared for: Murray Hutton @ Geos Mining.

Temby P, Souza-Castell L, May 2024. Wabag Project Enga and East Sepik Provinces, Papua New Guinea. Reinterpretation of Existing Data and New Target Generation.



# Appendix 1 JORC Code, 2012 Edition – Table 1

## Section 1 - Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code Explanation	Commentary
Sampling techniques	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.  Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.  Aspects of the determination of mineralisation that are Material to the Public Report.  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.	Samples taken were stream sediment samples collected on site into large buckets, dried and then screened to produce 300-500 grams of 80# material for submission to the laboratory. These samples are considered to be representative of the catchments sampled.  Rock chip samples were approximately 1.5 kg and submitted to the laboratory for analysis. They are not considered to be representative of the rock types sampled but of the point sampled only.  Style of mineralisation sought is porphyry coppergold and epithermal gold related to Maramuni suite intrusives in the Papuan Mobile Belt.  Samples were analysed by 50 gram fire assay and ICP MS for 48 elements by Intertek Lae PNG code 4A/MS.
Drilling techniques	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, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	No drilling undertaken
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	No drilling undertaken,



		Limited
Criteria	JORC Code Explanation	Commentary
	Measures taken to maximise sample recovery and ensure representative nature of the samples.  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.	
Logging	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.  Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.  The total length and percentage of the relevant intersections logged.	No drilling undertaken,
Sub- sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.  If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.  For all sample types, the nature, quality and appropriateness of the sample preparation technique.  Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.  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.  Whether sample sizes are appropriate to the grain size of the material being sampled.	No drilling undertaken
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	Laboratory blanks and standards were all acceptable and the analyses are considered appropriate for early stage exploration.



		Limited
Criteria	JORC Code Explanation	Commentary
	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.	
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.  The use of twinned holes.  Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.  Discuss any adjustment to assay data.	No drilling undertaken
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.  Specification of the grid system used. Quality and adequacy of topographic control.	No drilling undertaken.
Data spacing and distribution	Data spacing for reporting of Exploration Results.  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.  Whether sample compositing has been applied.	Sample spacing was appropriate for early stage exploration, no sample compositing



Criteria	JORC Code Explanation	Commentary
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  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.	No drilling undertaken.
Sample security	The measures taken to ensure sample security.	Samples were sent by freight by commercial courier to Lae and checked in at the laboratory.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Internal review of sampling methodologies has been undertaken and sampling is considered adequate for regional exploration. No audit of the samples taken by the EU has been conducted by GMN

# 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	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.  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.	Els held 100% by GMN subsidiaries are: Abundance Valley (PNG) Limited EL2563 and ELA2779, Viva Gold (PNG) Limited EL2565; Els held 70% by GMN are EL1966 and EL1968 held by Viva No 20 Limited and EL 2306 held by Khor ENG Hock & Sons (PNG) Limited / Abundance Valley (PNG) Limited
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Parts of the area of EL1966 were held by International Nickel Southern Exploration Limited during 1967-72, by Carpentaria Exploration Company during the late 1970s and by Placer (PNG) and joint venture partners during the early 1980s. These companies concentrated their exploration efforts on other prospects and no



Criteria	JORC Code Explanation	Commentary
		meaningful exploration was undertaken within the area of EL1966.  PA644 - Brisa Minerals (wholly-owned subsidiary of Carpenters Pacific Resources NL)  1985 – 1997?  Brisa evaluated the area in 1985, prior to application for PA644 (Harnish, 1987). The proposed PA (Prospecting Authority, the precursor to ELs) contained four known prospects:  Kundoron – porphyry Cu-Mo prospect, NE of EL1966 Lumoro - porphyry Cu-Mo prospect, NE of EL1966 Timun River alluvials, within EL1968  The EU sponsored the GEOMAP program, which included regional stream sediment sampling and airborne magnetics + radiometrics surveys (flown by Fugro), over a large part of the Highlands region.  Anomalous gold and copper values were recorded for samples from within the EL1966 and EL2306 areas. The anomalous areas appear to be associated with northwest and north trending structures and granodiorite/diorite and gabbro intrusions.
Geology	Deposit type, geological setting and style of mineralisation.	The mineralisation in the region consists of very widespread alluvial gold, coming from a range of relatively proximal sources. Extensive work by GMN over the last 10 years has shown the presence of skarn and porphyry proximal mineralisation in drill holes. An early focus on alluvial gold was not successful. Focus is now on porphyry and epithermal exploration.
Drill hole Information	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:  o easting and northing of the drill	No drilling undertaken Stream sediment sample locations were transferred to Google Earth for assessment of actual drainage locations sampled.
	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	



Criteria	JORC Code Explanation	Commentary
	<ul> <li>down hole length and interception depth</li> <li>hole length.</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>	
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. 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.	No drilling or sample aggregation undertaken, no cut off grades applied. Cu/Zn ratios used are based on the original reported data with no alteration to values. No metal equivalent values used
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  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').	No drilling undertaken No known in situ mineralisation known at Mamba Creek however alluvial gold workings are now known to be present
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.	No drilling undertaken; plan views of stream sediment sample locations are provided and of proposed follow up samples.



Criteria	JORC Code Explanation	Commentary
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.	Representative values of anomalous samples are shown on maps in this report
Other substantive exploration data	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.	The author has examined the GMN data base and ASX releases from the past 11 years and relies upon the expertise of the competent persons who reported the data.  The EU data is used as reported and interpreted to allow identification of anomalous areas.  Current sampling and interpretations were supervised by competent geologists with extensive experience in this style of mineralisation.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out 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.	Additional work is targeted stream sediment sampling, rock chip sampling and mapping of outcrop and ridge and spur soil sampling.  Priority is to concentrate on assessment the area with the epithermal float sampled with a rock chip sample and where the gold workings were.