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Australian Securities Exchange

## **High Grade Zone - Independent Consultant Target Review, Crater Mountain, PNG**

- Report by independent geological consultants, Mining Associates ("MA") suggests a target for the High Grade Zone ("HGZ") prospect based on selective underground mining
- MA confirmed the Company's expectations that the HGZ has the potential to be a rich source of gold which could be developed at low cost and in a short period of time
- MA state that it is likely that similar independent high grade gold deposits may be repeated at several places as splays off key structures over a potential area of at least 1400m by 700m.
- MA conclude that the broader Crater Project potential is at least some 20km across and is a "major system".

Crater Gold Mining Limited ("CGN") is pleased to announce that its expectations of its Crater Mountain, Nevera Prospect High Grade Zone ("HGZ") have been confirmed by respected independent geological consultants, Mining Associates following a site visit in mid-September by MA principal Mr Andrew Vigar. MA conclude that the target for the HGZ prospect based on selective underground mining may be stated as:

### **HGZ Target – 50 to 250 kt @ 13 to 30 g/t Au for 60 to 100k Oz of contained Au**

MA does caution that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource. MA has also observed that the HGZ target zone is currently under active exploration development by the Company with surface mapping and sampling, adit development and both surface and underground close spaced drilling.

The visit was commissioned following the initial opening of an adit and the commencement of underground development into the zone.

Commenting on the analysis by MA, Exploration Director Peter Macnab said "*MA has confirmed our expectations that the HGZ has the potential to be a rich source of ore which could be developed at low cost and in a short period of time. Together with recent airborne geophysics data, we have been able to leverage off both our historical drilling and the work of the artisanal miners to show that the Crater Mountain mineralised system has the potential for short term, medium term and long term production opportunities. We believe this system will in time demonstrate its potential to be another great PNG producer.*"

### **HGZ Target**

MA was commissioned by the Company to delineate a target for the HGZ area. The higher-grade mineralisation has clearly been defined in the artisanal workings, recent adit development, bench/trench sampling and in shallow drilling. Mapping shows a complex interplay of narrow, high grade zones with several different orientations. MA is of the opinion that there is insufficient data to

outline accurate 3D shapes to define this mineralisation at this time and thus a resource estimate was not considered appropriate.

The HGZ Target is defined by a 100m radius circle centred on the area of artisanal workings (Figure 1). The target is within 150m of the surface. The area lies well outside the current resource estimates for the Nevera Mixing Zone Prospect (Richmond, 2011 see Figure 1).

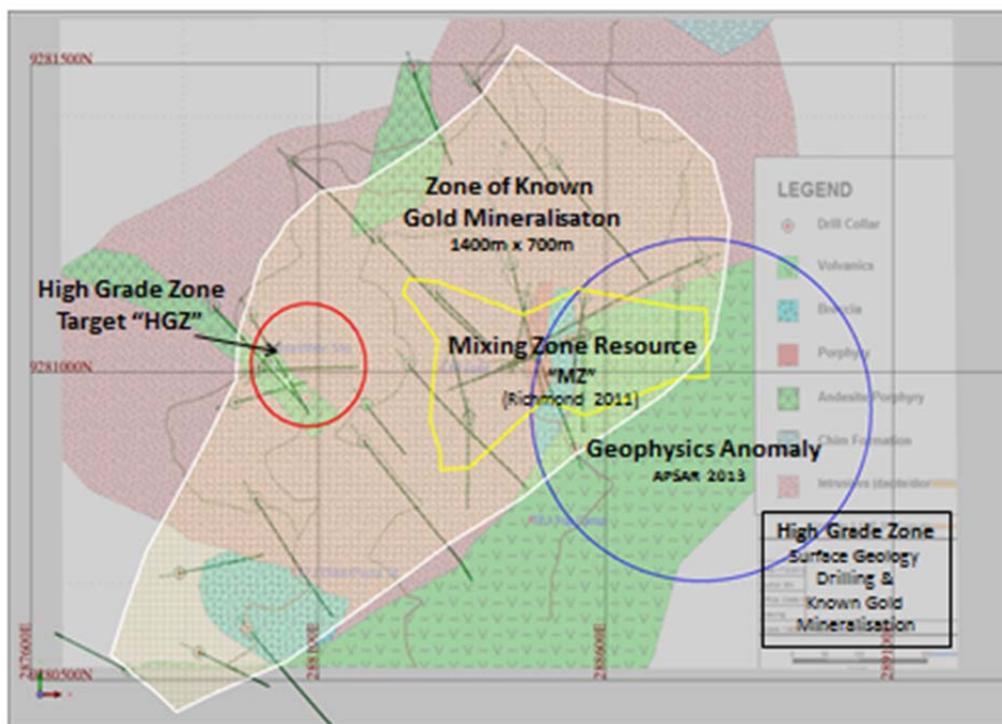


Figure 1. High Grade Zone in relation to Known Gold Mineralisation and Mixing Zone

*Red circle- HGZ Target.-Yellow outline on right is Richmond 2011 Mixing Zone Resource limits. Blue circle is geophysical target. Dark lines are drill holes. Background is 2012 surface geology map. Area outlined in white is area of known gold mineralisation at Nevera.*

Following Mr Vigar's site visit and MA's thorough examination of the Company's historical exploration data MA concluded that the target for the HGZ prospect based on selective underground mining may be stated as:

**HGZ Target – 50 to 250 kt @ 13 to 30 g/t Au for 60 to 100k Oz of contained Au**

MA does caution that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

MA has also observed that the HGZ target zone is currently under active exploration development by the Company with surface mapping and sampling, adit development and both surface and underground close spaced drilling.

Notes to accompany this target are:

1. The initial target is for highly selective narrow underground mining.
2. Target Area 100m radius and to 150m below surface centred on Artisanal workings.

3. Area is not included in current resource estimates.
4. Block model using blocks 5x5x5m.
5. Screened for topography.
6. 206 x 5m down-hole drill composites from holes 4, 9, 22, 23, and 26 and 87 x 5 m bench samples.
7. Averaging of grades and dilution by using 5m composites of diamond core and bench samples.
8. Nearest Neighbour grade allocation to blocks using 100m omnidirectional search.
9. Appropriate rounding of numbers to reflect Targeting.
10. A bulk density of 2.5 t/m<sup>3</sup> was used for reporting.

MA concludes that mineralisation is likely controlled by a number of key structures allowing mineralising fluids to be introduced adjacent to them. The host breccia zones are controlled by a combination of structures running north-south, north-east and north-west.

MA stated *"It is likely that similar independent high grade gold deposits may be repeated at several places as splays off key structures over a potential area of at least 1400m by 700m."*

At the intersection of these fractures mineralisation and weathering is likely to result in increased concentrations of gold producing discrete high grade ore shoots at greater widths.

Limited surface drilling targeting the HGZ had indicated potential for high grade gold to a depth of at least 100m – drill hole Nev 22 intersected 2.0m @ 98 g/t Au approximately 100m below the artisanal workings being tested by the current adit development. Exploration from underground is via drive development and underground diamond drilling.

Geological mapping of remnant surface exposures and several drill intersections have identified mineralisation as steeply dipping high-grade quartz-pyrite-gold veining and related steeply plunging ore shoots which have been impacted by intense near-surface acid leaching and deposition of clays and iron oxides with free gold in fractures. It is this material that has been exploited by the artisanal miners in the past. Alteration associated with the mineralisation shows it to be high sulphidation epithermal in nature, related to a separate phase of mineralisation from the widespread low sulphidation mixing zone event. There is a strong potential for the high gold values worked near surface to extend to depth in the primary zone.

**Key observations in the Mining Associates report on the Crater Mountain tenements include:**

1. Significant gold and copper (at depth) mineralisation occurs within the tenement area.
2. There are 2 mineralised zones of potential economic significance identified to date, the Mixing Zone ("MZ") and High Grade Zone ("HGZ"). In addition widespread deep porphyry Cu-Au mineralisation has been identified in drill core.
3. The Nevera prospect is focused around a volcanic breccia of complex shape and uncertain limits (possibly partly gradational) with an area of at least 1400 m by 700 m.
4. The Crater Complex is sub-elliptical in shape, approximately 20 km across.
5. Recent airborne magnetics and radiometrics have been undertaken and processed over the Crater mountain licenses. Because surface outcrop is limited due to a widespread volcanic ash cover this will be most helpful in on-going target identification. MA notes that commonly more subtle features, or the edges of anomalies, are key targets.
6. It is expected that other hydrothermal systems of similar size to Nevera will occur within the Crater Stratovolcano Complex. Three have been identified by early exploration (Nimi, Awanita and Masi).

Typically the overall mineralisation system can cover tens of square kilometres with surface expression as a number of individual cells, each 2 to 5 km apart, separated by barren zones.

MA is of the opinion that there are four styles of mineralisation seen within the prospect area in a complex interplay over a long period of build-up and then collapse of a major stratovolcano (*here called the Crater Complex*):

1. Steeply dipping structurally controlled intense acid leached zones with high grades of gold only, examples being HGZ. Gold to silver ratio of 3 to 1 or higher. The origin of these is uncertain. They could be due to a high-sulphidation event or due to generation of acids from breakdown of unstable sulphides near surface. These at least partly overprint, and are formed from the breakdown of, earlier mineralisation; of:
2. Broader lower grade zones of more complex shapes associated with carbonate base metal sulphides and moderate grades of gold and silver, like MZ. Gold to silver ratio of about 1 to 1 with significant levels of base metals (copper, lead and zinc); which both partially overprint the:
3. Main low sulphidation epithermal quartz gold-silver event associated with collapse of the Stratovolcano and formation of the major breccia zones and emplacement of the andesite to dacite porphyry dykes and small intrusions; which all overprint the:
4. Primary, older, porphyry copper mineralisation seen at depth and emplaced within the original Stratovolcano. It is possible small stocks of this type will occur at higher levels, as seen at Wafi where these are significant ore bodies. A target has been identified to the east of the MZ.

The four types are of course related to the same overall mineralisation system, which is large and complex in detail and long lived, with the higher grade gold zones being later. The difference between the various epithermal gold styles relates to different settings and results in the varied intensity and metal ratios.

MA has confirmed the Company's expectations that the HGZ has the potential to be a rich source of gold which could be developed at low cost and in a short period of time and has placed the HGZ mineralisation in the overall Crater Mountain framework.

The Crater Mountain hydrothermal mineralised system has the potential for hosting deposits with short term, medium term and long term production. We believe the Crater Mountain system will in time demonstrate its potential to be another great PNG producer.

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## Competent Person Statements

*The information contained in this report relating to Exploration Results at Crater Mountain PNG is based on information compiled by Mr P Macnab, Non-Executive Director of Crater Gold Mining Limited. Mr Macnab is a Fellow of The Australian Institute of Geoscientists and has the relevant experience in relation to the mineralisation being reported upon to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Macnab consents to the inclusion in this 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 Exploration Targets is based on information compiled by Mr Andrew J Vigar who is a Fellow of The Australasian Institute of Mining and Metallurgy and is employed by Mining Associates Limited. Mr Vigar 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 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Vigar consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*