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## **QUARTERLY ACTIVITIES REPORT**

**For the period ended 31 December 2015**

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### **About Crater Gold Mining Limited**

#### **(ASX CODE: CGN)**

*Crater Gold Mining Limited ("CGN" or "the Company") is focussed on development of the HGZ project at the potentially world class Crater Mountain gold project in PNG, on the Fergusson Island gold project in PNG and on the A2 Polymetallic and Golden Gate graphite projects at Croydon in Queensland, Australia*

#### **Crater Gold Mining Limited**

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**Russ Parker**  
**Managing Director**

### **Key Points**

#### **Crater Mountain – HGZ Project, Papua New Guinea**

- Gold Mining plant has arrived in PNG, and is currently being commissioned to site
- High grade gold sampling results 430m south of HGZ project

#### **Corporate**

- Share placements raise \$4.5million

## **CRATER MOUNTAIN, PNG**

### **Key developments during the Quarter**

#### **High Grade Zone (“HGZ”) gold mining project Crater Mountain, PNG**

- Gold Mining plant has arrived in PNG, and is currently being mobilized to HGZ.
- Gold mining plant to be commissioned in the short term.
- High grade gold sampling results 430m south of HGZ Project.

The gold mining processing plant has arrived in PNG and is in process of mobilisation to site for commissioning with full mining capacity anticipated in the short term.

The Company conducted a sampling program approximately 430m south of the HGZ Project. High grade gold sampling results have been received. The Company will shortly be issuing an update.

The objective of the Company is to establish steady, ongoing cash flow, positioning the Company as a profitable gold producer. Once mining plant capacity is achieved, Crater anticipates producing some 10,000 ounces of gold in the first full year of production, at an all-in cash cost of below \$400 per ounce average over the mining lease term. The HGZ Project is expected to be a high margin operation and generating strong cash-flows, which will fund further expansion at the HGZ mine and enable further exploration activities at the Company's other assets. As our mining activities accelerate, revenue is expected to grow strongly.

The mining priority is the intersection of N-S trending structures. This was the site of bonanza grade channel samples up to 847 g/t Au (refer ASX release of 19 November 2013 “Bonanza gold grades intersected at High Grade Zone” and ASX release of 4 May 2015 “High Grade Zone Mining development and Drilling Update”).

While the current focus remains on the HGZ mine, there remains potential to increase the current JORC compliant resource of 24Mt at 1.0 g/t Au for 790,000 ounces at the nearby Mixing Zone Project at Crater Mountain (refer ASX Release of 24 November 2011: “Crater Mt – Initial Resource Estimate”. This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The Company is not aware of any new information or data that materially affects the information contained in that ASX release. All material assumptions and technical parameters underpinning the resource estimate continue to apply and have not materially changed).

Crater Mountain is located 50 km southwest of Goroka in the Eastern Highlands Province of PNG. Formerly a tier-1 BHP asset, there has been in excess of 14,500 metres of diamond drilling to date, the majority focussed on the Nevera prospect, which hosts the HGZ mine.

#### **Mining Development Programme**

During the quarter, the focus has been on re-interpretation of controls to mineralisation and the location of high grade shoots. Up to September, mining development had been undertaken in 9 drives on mineralised gold bearing structures at the 1960 RL Adit. The drives are on the NV1 (North Vein No1), NV2, NV4, EV2 (East Vein No2), EV4, JL (Jeremiah Lode), JL2 and JL3 veins as well as the Link structure. The Link structure trends northeast southwest and provides a link between the north south trending NV and JL structures. These veins have been identified from exploration development in 2013 and diamond drilling in 2014 and

sampling results from 2015 as being the most consistent structures both in extent and gold mineralisation. They show very good correlation with the artisanal workings up to 30m above and are consistent with those workings which were reported to have yielded the best gold.

Additional drives are scheduled to be commenced as site infrastructure is upgraded.

The drives have been prioritised to target identified zones of higher grade gold mineralisation and laid out to provide the basis for commencement of stoping on high grade.

The Company is prioritising locating the downwards extensions of the high grade shoots and their connecting structures in order to stop upwards on them and efficiently extract between the 1960RL level and the surface. The nature of mineralisation localised by intersecting fracture sets such as the HGZ is such that additional high grade shoots and splays not located by the local miners can be expected to be identified in the course of ongoing development.

Mineralisation is confined to numerous narrow highly oxidised veins trending approximately north-south with several cross cutting east west structures. Development and drilling has shown that the junction of these structures is favourable for the occurrence of bonanza grades of coarse free gold up to 847 g/t Au (27.2 oz/t Au) (refer ASX release of 19 November 2013 : "Bonanza gold grades intersected at High Grade Zone". The Company is not aware of any new information or data that materially affects the information contained in that ASX release).

The Company has also planned to commence strategic haulage drives to the south close to the eastern margin of the main zone of mineralisation. These will enable exploration and exploitation of the southern extension of the HGZ.

Channel sampling of development on mineralised gold bearing structures returned bonanza gold grades on at least three separate structures.

Drive	Sample Position @ Start + m	Channel Width m	Grade g/t Au	Refer to Fig
EV4 - West	8.60	0.3	1,740	2
NV1 - North	2.70	0.5	570	4
NV2 - North	1.45	0.3	518	1

Channel sampling of mineralised gold bearing structures in development drives confirmed contiguous zones of high grade mineralisation along strike suitable for selective mining. To date, three distinct zones on the NV1, EV4 and JL have been targeted for stoping. Refer to Table 1 below.

Drive	Strike length m	Wtd Ave Channel Width (CW) M	Wtd Ave CW Grade g/t Au	Wtd Ave SW Grade (assume 0.6m minimum width) g/t Au
NV1 Nth	4.35	0.44	147.7	108.3
Including	2.20	0.50	245.5	204.6
EV4 East	7.40	0.31	221.6	116.9
Including	2.95	0.40	410.7	273.8
JL Nth	10.90	0.71	21.2	11.7
Including	5.00	0.42	52.5	37.1
NV2 ex EV2	3.63	0.37	140.9	86.1

*Table 1 - Significant Sampling and Assay Results from Drive Development*

The success of these sampling results enables the Company to move rapidly towards increasing gold production when the mining plant has been upgraded.

## Discussion of Results

### Geology and Mineralisation

Drive development on mineralised gold bearing structures confirmed the interpretation made from diamond drilling carried out in 2014. Two prominent roughly north south trending structures, the NV1 Vein (North Vein 1) and the JL Vein (Jeremiah Lode) have been identified as the significant controlling structures within a known 20m to 25m wide north south trending zone. These structures are continuous over at least 50m of strike at this stage. Several East West trending structures, EV1 to EV5 (East Vein 1 – 5) have been shown to link the north south structures. A number of lesser developed NE – SW and NW – SE link structures have also been identified. Of these link structures there is one prominent structure, named Link 1, which connects between the NV1 and JL and traverses the centre of the zone containing the highest gold grades Refer to Figures 1 to 4.

The confluence of each of these structures is favourable for increased mineralisation and significantly elevated gold values. This is particularly evident at the junction of EV4 with NV1 returning a bonanza grade of 1,740 g/t Au over a channel width of 0.3m. High gold grades have been found to persist for up to 10m from these junctions. As an example, the EV4 Vein returned a strike length of 7.4m with a weighted average grade of 221.6 g/t Au over a channel width of 0.31m. Refer to Figure 2 and Table 1.

The JL North has returned a weighted average grade of 52.5 g/t Au over a channel width of 0.42m for a strike length of 5.00m either side of the confluence with the EV2 Vein. Refer to Figure 3 and Table 1.

It is also common to encounter coarse visible free gold in these areas.

Given the identification of discrete continuous zones of high grade strike length, development and stoping layouts have been established to exploit these shoots upwards to surface. It is significant that the high grade shoots so far identified correlate well with the diggings by artisanal miners exploiting the same structures from surface from 2005 to 2012. One such working has been encountered in development of the EVx-1 structure. Refer to Figure 1.

Drive development and limited trial stoping was carried out with a combination of jack picking, where ground conditions allow, and drill and blast where the rock is more competent. This allows narrow self-supporting excavations to be made. Excellent ground conditions have been encountered for this type of mining with little need for supplementary support.

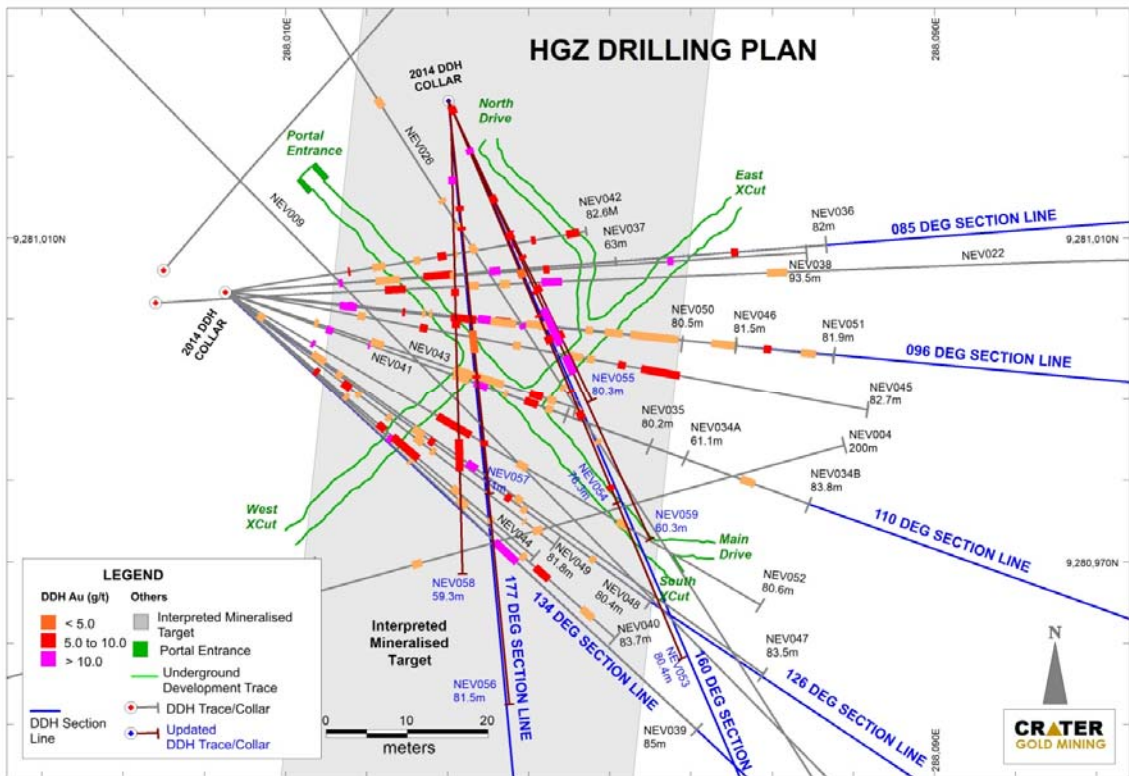


Figure 1 - Plan of Current Drill Hole Traces and Historic Drill Holes

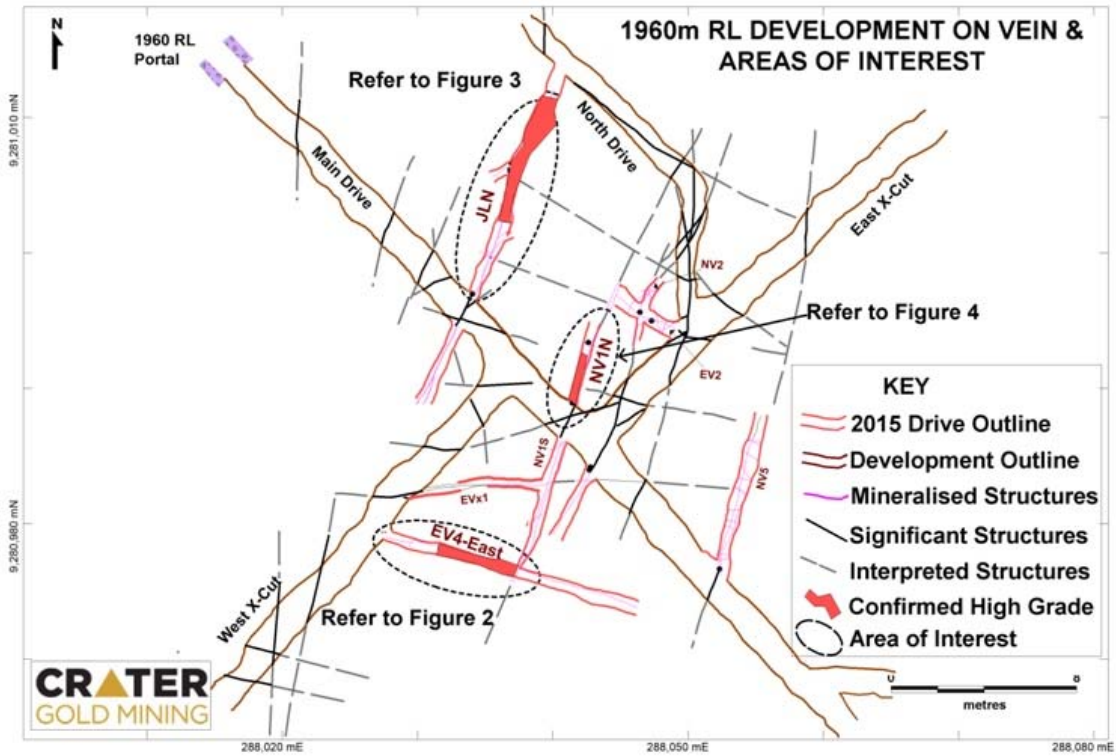


Figure 2 - High Grade Zone Drive Development on 1960 RL





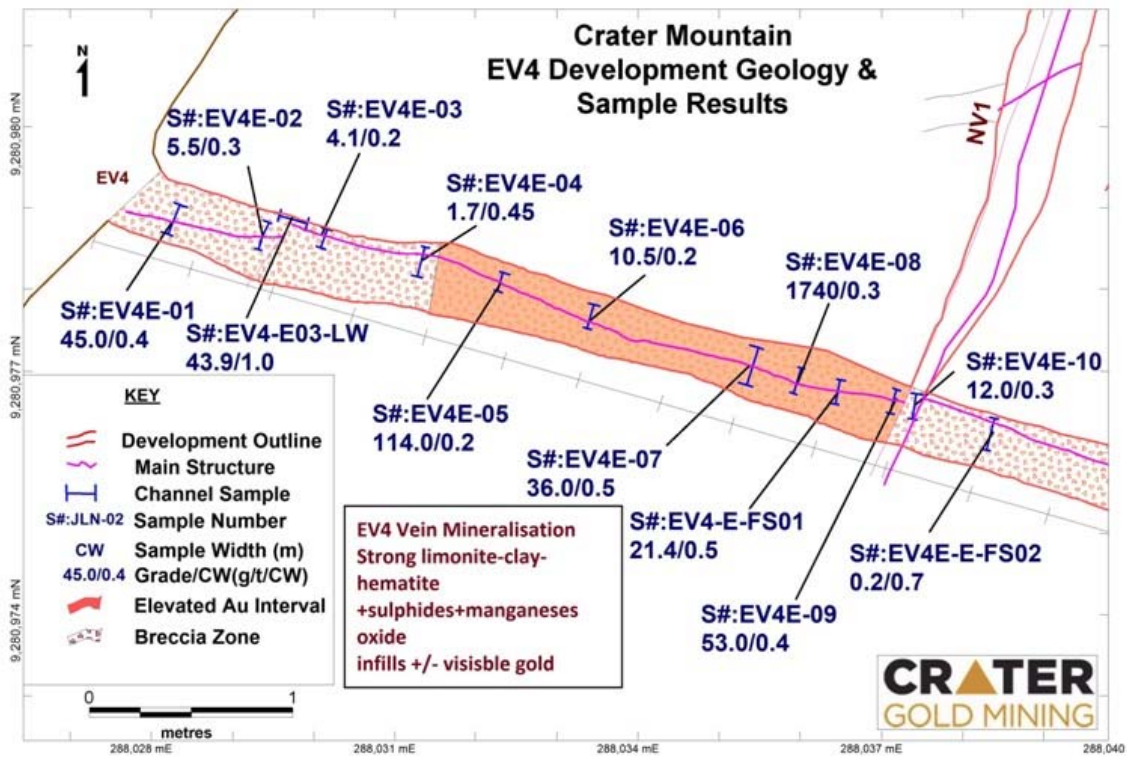


Figure 4 - EV4 – East. Channel Sampling Results



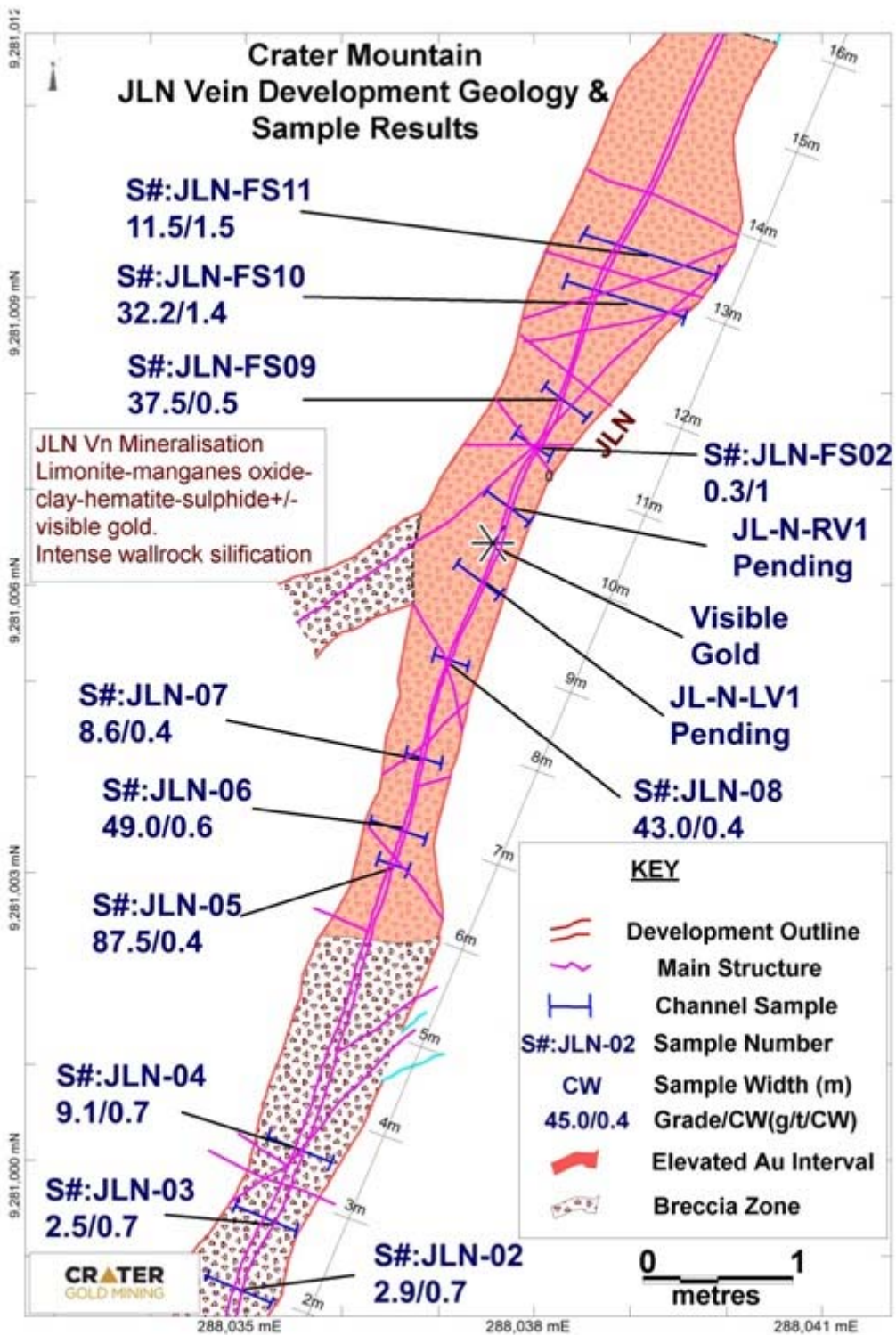


Figure 5 - JL – North Channel Sampling Results

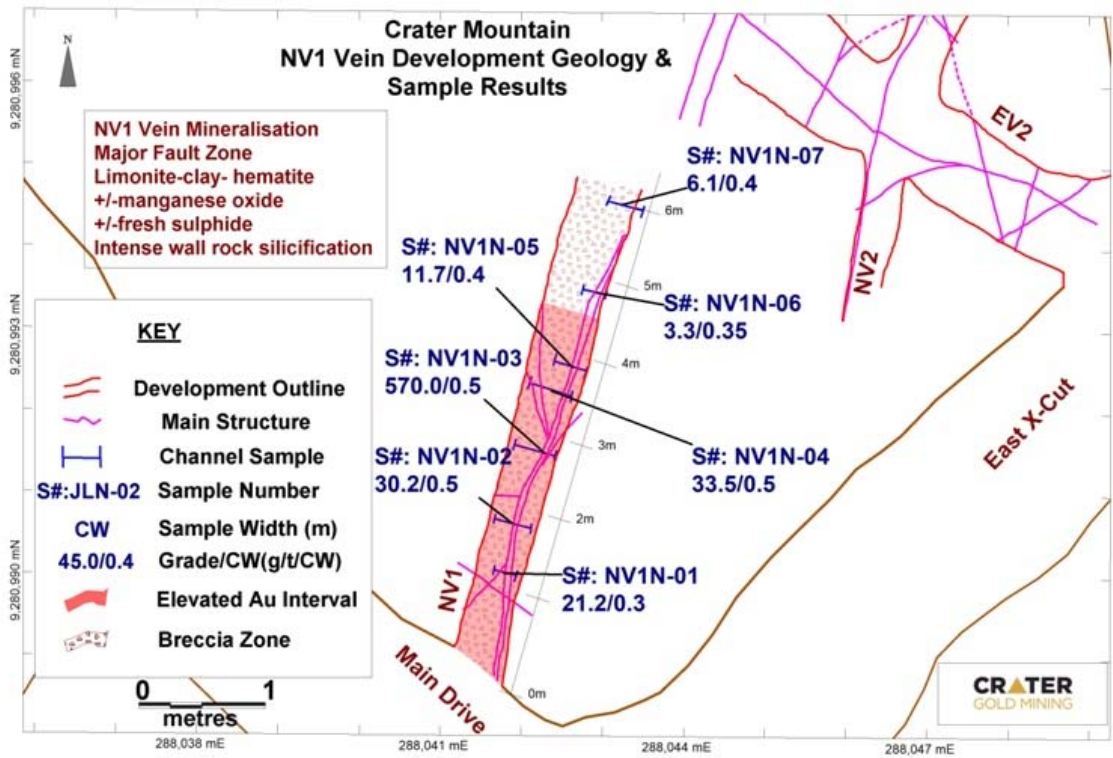


Figure 6 - NV1 – North Channel Sampling Results

## **Corporate**

### **Passing of Mr Peter Macnab**

The Board of Crater Gold advised that Director Peter Macnab passed away in December last year.

Peter had a luminary career in the resource sector, with a particular focus on Papua New Guinea. Previously the PNG Government Geologist, he participated in or was solely responsible for a long list of discoveries including the Frieda River copper/gold deposits; Misima's open pit gold mine; Wafi copper/gold deposits; the Simberi gold deposits; and most significantly discovering the world-class Ladolam gold mine on Lihir Island.

More recently, Peter's efforts were centred at Crater Mountain for the company where he was instrumental in developing the Company's Crater Mountain Mixing Zone and the HGZ gold mining project.

Peter was an invaluable member of the Board since 2008.

The Board passes its condolences to Peter's wife, Maureen and all his family and friends.

### **Share Placements**

The company successfully completed a two stage capital raising of \$3.4 million in November 2015. The Capital Raising was made up of two tranches with the first tranche of \$1.3 million issued to a selection of international institutional investors. The second tranche of \$2.1 million was issued to Freefire Technology Limited (Freefire), after requisite shareholder approval was obtained.

The company also completed a placement of \$1,056,000 in December 2015 to clients of Gobarralong Capital..

### **EGM Shareholder Meeting**

At the Company's general meeting held on the 13th of November 2015, the 2 resolutions put to shareholders were passed. The primary purpose of this meeting was to approve the participation by Freefire in the placement referred to above.

### **AGM Shareholder Meeting**

At the Company's annual general meeting held on the 26th of November 2015, all the resolutions put to shareholders were passed. The Board extends its support to shareholders for their ongoing support.

## **COMPETENT PERSON STATEMENTS**

*The information contained in this report relating to exploration results and mineral resource estimate at Crater Mountain PNG is based on and fairly represents information and supporting documentation prepared by Mr Richard Johnson, PNG General Manager of Crater Gold Mining Limited. Mr Johnson is a Fellow of The Australasian Institute of Mining and Metallurgy and has the relevant experience in relation to the mineralisation being reported upon 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 Johnson consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*

### **Schedule of Crater Gold Mining Limited tenements:**

<b>Particulars</b>	<b>Project Name</b>	<b>Registered Holder</b>	<b>% Owned</b>	<b>Status</b>	<b>Expiry</b>	<b>Area (Km<sup>2</sup>)</b>
EPM 8795	Croydon	CGN	100	Granted	6/09/2016	19.2
EPM 9438	Mount Angus	CGN	100	Granted	14/07/2016	19.2
EPM 10302	Gilded Rose	CGN	100	Granted	31/12/2015	6.4
EPM 13775	Wallabadah	CGN	100	Granted	5/03/2017	32
EPM 16002	Foote Creek	CGN	100	Granted Renewal lodged	30/01/2013	28.8
EPM 18616	Black Mountain	CGN	94 <sup>1</sup>	Granted	18/06/2018	96
EPM 25186	Croydon Gold	CGN	100	Application		60.8
EL 1115	Crater Mountain	Anomaly Ltd <sup>2</sup>	100	Granted Renewal lodged	25/09/2014	41
EL 1353	Crater Mountain	Anomaly Ltd <sup>2</sup>	100	Renewal lodged	20/06/2012	113
EL 2249	Crater Mountain	Anomaly Ltd <sup>2</sup>	90	Granted	11/11/2015	10
EL 1972	Fergusson Island	Anomaly Ltd <sup>2</sup>	100	Granted	20/12/2014	67
EL 2180	Fergusson Island	CGN	100	Granted	27/06/2015	37

<sup>1</sup> 6% owned by Global Resources Corporation Limited

<sup>2</sup> Anomaly Limited is CGN's 100% owned PNG subsidiary

## **Background to the Company's projects**

### **Crater Mountain Project - PNG**

The Company's flagship Crater Mountain gold project is located in the Eastern Highlands of Papua New Guinea ("PNG") near the eastern end of the New Guinea Orogen geological province, which lies along the northern edge of the Australian continental plate and occupies the mountainous backbone of the island of New Guinea. The New Guinea Orogen hosts a number of world-class copper-gold deposits including the world's largest copper-gold mine at Grasberg in Indonesia's Papua Province, and Ok Tedi, Frieda River, Yandera and Wafi-Golpu in Papua New Guinea, as well as the Porgera and Hidden Valley gold deposits in Papua New Guinea. All of these deposits share a common geological mode of formation in large mineralised hydrothermal systems underlying variably eroded volcanic complexes from mid-Miocene to recent in age.

The Crater Mountain tenement block comprises andesitic volcanic rocks of the ancestral Pliocene Crater Mountain stratovolcano which grew to an immense size before undergoing caldron collapse on a ring fracture system 20 kilometres in diameter, perhaps 4 million years ago. This event was followed by a long period of volcanic quiescence and deep erosion which continued until about 1 million years ago when renewed andesite cones principally within and east of the northeast quadrant of the collapse structure. The volcanic rocks were intruded through and deposited on a rugged basement of Chim Formation Mesozoic marine shales, with intermittent reactivation of north-easterly-, northerly- and north-westerly-trending deep crustal fractures in the basement controlling the geometry of the sub-volcanic magmatic and hydrothermal activity and mineralisation.

Exploration by the Company at Crater Mountain is focused principally at the northern end of the large Nevera Prospect, one of four prospects identified within the Company's licences since exploration commenced in the region in the 1970s.

The results of mechanical benching and diamond drilling conducted by the Company around the end of a prominent ridge at the northern end of the Nevera Prospect indicate that the Prospect lies within a typical large and complex New Guinea Orogen mineralised hydrothermal system, with excellent potential to host a number of deposits within its bounds. Mineralisation is associated with sub-volcanic magmatic activity related to the locally-prominent Nevera Igneous Complex, and four different types of mineralisation have been identified:

- The relatively shallow Main Zone or Mixing Zone lying 150m to 300m below the northern end of the Prospect ridge, which comprises low-sulphidation epithermal carbonate-base metal sulphide-gold mixing zone mineralisation in excess of 600m long by 250m wide by 150m thick (with similarities to the Hidden Valley deposit in the nearby Morobe Goldfield).
- Note: A JORC compliant inferred resource of 24Mt at 1.0 g/t Au using a 0.5 g/t Au cut-off for 790,000 ounces has been defined in the Main Zone; this includes 9.4Mt at 1.46 g/t using a 1.0 g/t Au cut-off for 440,000 ozs (ASX Release 24 November 2011: *Crater Mt – Initial Resource Estimate*) (This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The Company is not aware of any new information or data that materially affects the information contained in that ASX release. All material assumptions and technical parameters underpinning the resource estimate continue to apply and have not materially changed). (This inferred resource is open laterally and perhaps to depth, following down a possible steep plunge to the northeast)
- The High Grade Zone ("HGZ") high grade high-sulphidation epithermal quartz-pyrite-gold mineralisation, extending from surface to several hundred meters depth (possibly in excess of 500m); local artisanal miners produced an estimated 15,000 ounces from a small area of shallow workings (maximum 50m depth) in the base of a steep mineralised spur from 2005 to 2012
- A large porphyry copper-gold system identified by drilling at +800m depth below the northern end of the ridge ("Golpu" type from Wafi-Golpu in the Morobe Goldfield)



- A possible lead-zinc related quartz-carbonate-base metal sulphide-gold stockwork vein and breccia feeder zone (for the Mixing Zone mineralisation) at the margin of the deep intrusion (+600m) which is causing intense baking and fracturing of the sub-volcanic basement shales underlying the Mixing Zone (Porgera “Waruwari” type).

### MINERALISATION AT THE NORTHERN END OF NEVERA PROSPECT

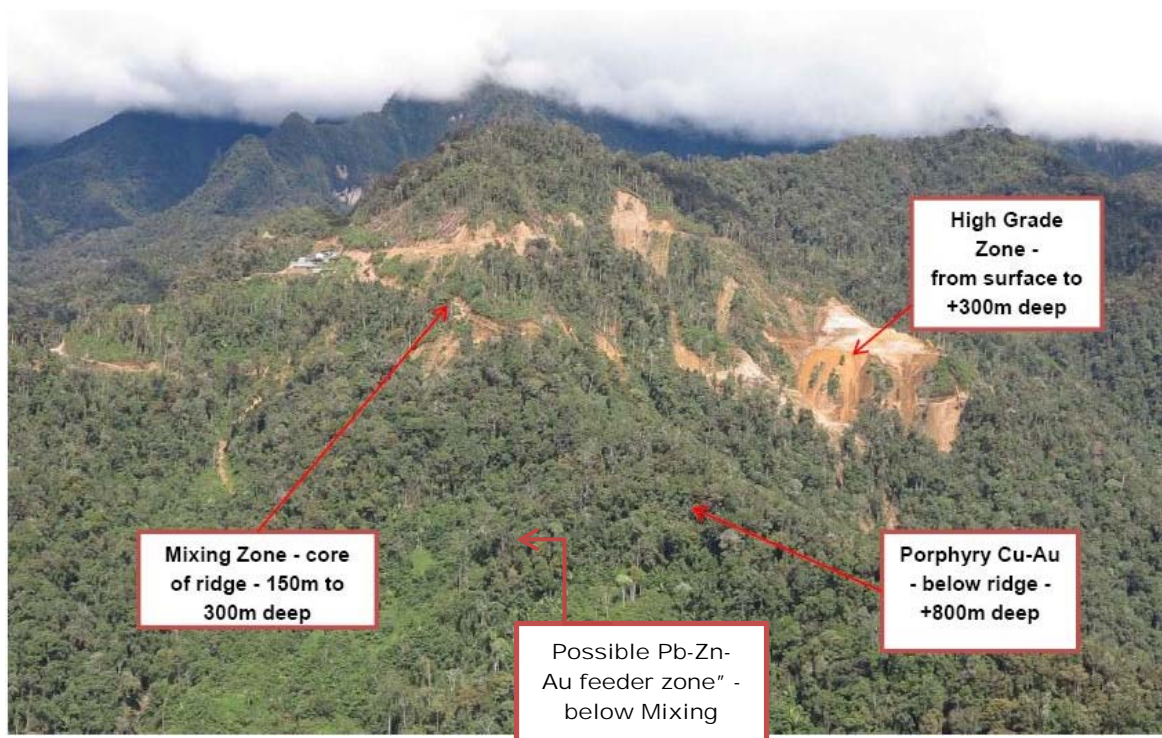


Figure 7 - Nevera Prospect



## Fergusson Island Project - PNG

The Gameta gold deposit and the Wapolu gold deposit, located in close proximity to each other on the north-coast of Fergusson Island in Papua New Guinea, comprise the Company's Fergusson Island Project, upon which over \$15M has been spent since 1996.



Figure 8 – Location of Gameta and Wapolu deposits, Fergusson Island, PNG

The Fergusson Island Project comprises two drilled gold deposits, Gameta and Wapolu. The Company previously announced its first resource estimate reported in accordance with the JORC Code for the Gameta deposit, an Inferred Resource of 5.1 million tonnes at 1.8 g/t for 295,000 ounces of gold at a cut-off grade of 1.0 g/t gold (ASX release 8 October 2010: "Fergusson Island Gameta deposit – Initial Resource Estimate". This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The Company is not aware of any new information or data that materially affects the information contained in that ASX release. All material assumptions and technical parameters underpinning the resource estimate continue to apply and have not materially changed). Further drilling down-dip can be expected to increase the size of the resource.

The Gameta gold deposit lies close to the coastline in the north east of Fergusson Island in the D'Entrecasteaux Islands of Papua New Guinea's Milne Bay Province and is located about 30 kilometres east of the Wapolu gold deposit.

The D'Entrecasteaux Islands comprise a number of metamorphic core complexes which form prominent tectonic domes of probable Cretaceous age. The domes consist of a core of high-grade crystalline rocks surrounded by a layered outer zone, between 1 and 2 km thick, composed of amphibolite facies gneisses. This layered zone is separated from over-thrust sub-seafloor oceanic mantle by a decollement (Detachment Fault Zone); overlying ultramafic rocks of the obducted block are largely serpentinised dunites, harzburgites, and pyroxenites. Thick colluvial deposits of landslide and slump debris mantle the margins of the domes and are prominent at Wapolu.

Mineralisation at Wapolu and Gameta is hosted in the Detachment Fault Zone and within the footwall dioritic gneiss and appears to be both fracture and dyke-related, and sulphide hosted. The overlying ultramafic plate, though strongly dyked, altered and fractured, carries only patchy and sporadic low-grade gold mineralisation.

The two properties have been explored for gold since the early 1980's during which time a total of 296 RC and air core holes (11,646m) and 97 diamond holes (6,401m) have been drilled at Wapolu (EL 2180) and 195 RC holes (10,179m) and 33 diamond holes (4,181m) have been drilled at Gameta

(EL 1972). Much of the data from this drilling has not been subject to QA/QC and does not measure up to JORC reporting standards.

## Croydon Gold and Graphite Project - Queensland Australia

A potentially large graphite deposit is located within EPM 8795 and EPMA 18616 at the Golden Gate Project at Croydon, North Queensland.

In July 2004, the Company, when named Gold Aura Ltd, undertook preliminary assessment of a large graphite deposit located at the Golden Gate gold mine. The graphite deposit was systematically drilled as part of a regional gold exploration program in the late 1980's by Central Coast Exploration (CCE). Three vertical reverse circulation holes were also drilled by the Company between 2005 and 2007 that confirmed that a thick graphite zone was present at Golden Gate.

The Golden Gate graphite project is located partially on Exploration Permit Mining EPM8795 and continues onto the contiguous EPMA18616. The graphite deposit has undergone electromagnetic geophysical surveys and systematic drilling during the late 1980's and limited drilling and testwork by CGN in 2004. Typical RC drill intercepts from CCE drilling in 1989 are presented in Table 1.

**SUMMARY OF RC DRILLING RESULTS AT GOLDEN GATE  
NOVEMBER 1989 (CCE Report #192/90)**

Hole #	Co-ordinates		End of Hole	Graphite Intercept	Width (m)	Average %C @ 2% cut-off
GGRC 2001	24201N	9550E	50m	44 - 50	6	3.5
GGRC 2002	23998N	9584E	44m	-	-	-
GGRC 2003	24000N	9701E	91m	48 - 78	30	7.3
GGRC 2004	23859N	9642E	76m	32 - 74	42	6.6
GGRC 2005	24101N	9773E	97m	37 - 93	56	6.0
GGRC 2006	24200N	9799E	93m	60 - 89	29	4.5
GGRC 2007	24200N	9699E	60m	3 - 56	53	5.8
GGRC 2008	24300N	9649E	66m	-	-	-
GGRC 2009	24399N	9699E	66m	-	-	-
GGRC 2010	24699N	9799E	30m	3 - 7	4	3.6
GGRC 2011	24901N	9700E	66m	-	-	-
GGRC 2012	25000N	9949E	48m	2 - 40	38	4.8
GGRC 2013	24999N	10049E	66m	-	-	-
GGRC 2014	25200N	10050E	80m	55 - 78	23	4.8/3.3
GGRC 2015	23799N	9324E	48m	5 - 24	19	3.8
GGRC 2016	25384N	9898E	48m	17 - 24	7	2.5
GGRC 2017	25599N	10099E	48m	7 - 28	21	3.8
GGRC 2018	24395N	10312E	66m	-	-	-
GGRC 2019	26600N	10400E	60m	-	-	-

*Table 2 - Drill intercepts reported by Central Coast Exploration from drilling in 1989 at Golden*

*(NOTE: all drill holes reverse circulation and vertical orientation with chip sample intervals 2m and %C determined by method GRAV6 at Amdel Laboratories, Adelaide)*

The deposit has a north-westerly strike and shallow easterly dip. Hydrothermal or magmatic graphite deposits are an important source of graphite with examples being mined in Sri Lanka and Sweden that produce both flake and amorphous graphite.

Since the Golden Gate graphite deposit is reasonably well defined, the Company's exploration program will focus on collection of fresh drill core samples for modern metallurgical testwork. Past testwork done on RC chip samples and near surface grab samples with contradictory results.

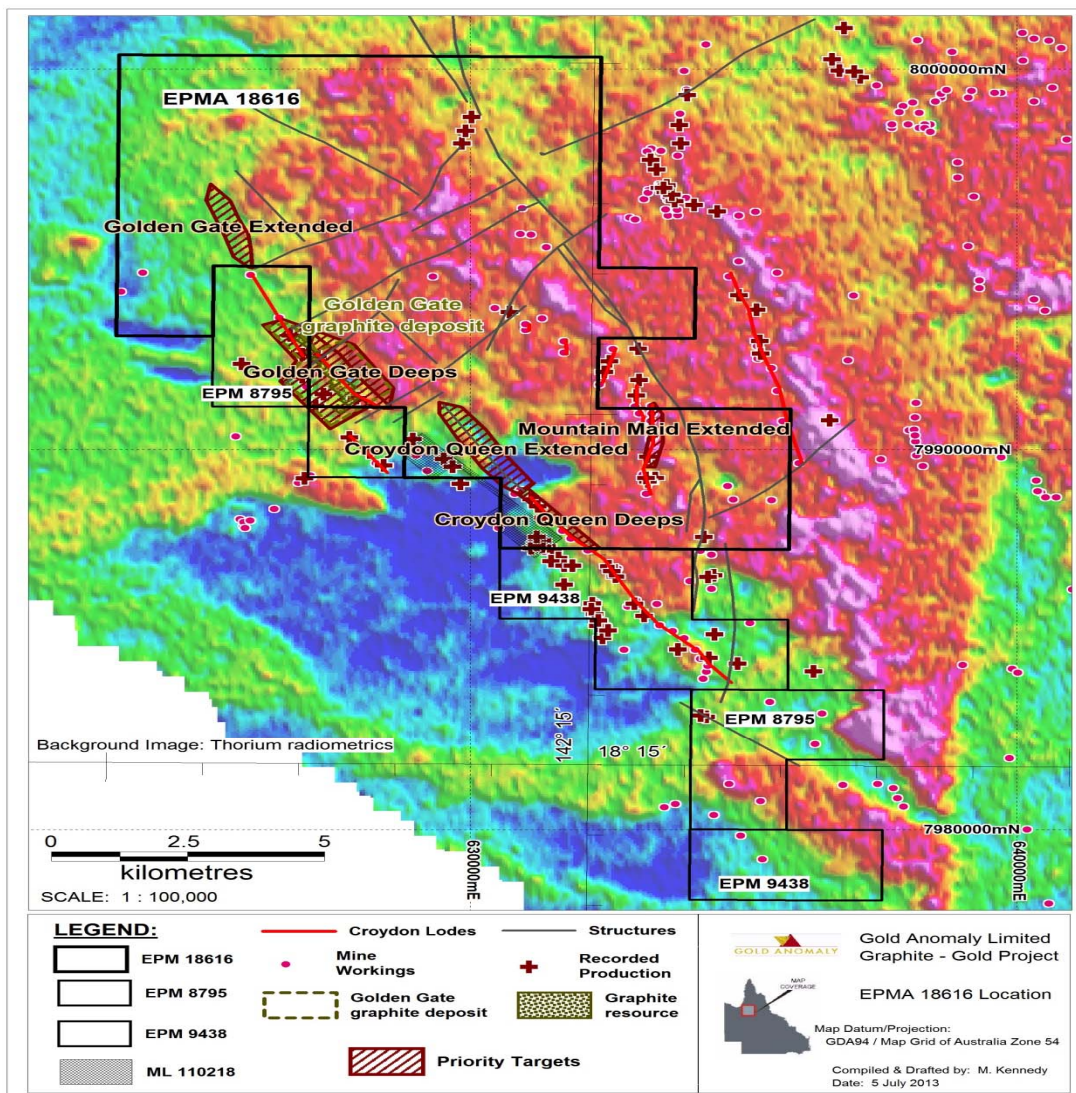


Figure 9 - Location Map of EPM18616 showing the Golden Gate graphite deposit as well as principal gold exploration targets

The acquisition of EPM18616 consolidated the length of the Golden Gate lode within tenements held by CGN. Five priority exploration targets along the trend of the Golden Gate lode have been identified. These areas were selected as having potential for gold mineralisation under shallow cover. Future exploration will involve ground geophysics (IP & EM surveys) across target trends followed by drilling.



## APPENDIX 2

### 1. JORC CODE, 2012 EDITION – TABLE 1

Notes on data relating to Drilling at Crater Mountain High Grade Zone

#### 1.1 Section 1 Sampling Techniques and Data

(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>• <i>Diamond drilling is used to obtain core from which samples at intervals ranging from 0.5-2.0m in length are submitted for analysis using FAA505 methodology. A 50g charge is used for fire assay for analysis for gold.</i></li> <li>• <i>All diamond drill core drilled by CGN is sampled in intervals based on geological logging. Previous diamond drilling was carried out with PQ, HQ and NQ diameter core and all core was cut with half core typically sent for sample preparation at SGS, Lae and pulps sent to SGS, Townsville for assay.</i></li> <li>• <i>Current diamond drilling is with LTK48 core, 35mm diameter. Whole core is sampled and sent for preparation and assay. Whole core is used to ensure sufficient sample mass and representivity.</i></li> <li>• <i>Underground exploration development is also carried out with drives and cross cuts. Face and sidewall channel samples are taken using moil and hammer to obtain samples of approximately 3kg. Channel lengths vary from 0.20-2.0m depending on geology.</i></li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• Diamond drilling is currently carried out using an underground rig with LTK48 rods and standard tube core barrel. Core diameter is 35mm. The rig is also set up to drill from surface.</li> <li>• Historical drilling by CGN at the Nevera prospect has been by diamond drilling PQ, HQ and NQ diameter core using triple tube and core orientation with a Reflex ACT II device</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Core recovery is measured for the complete hole based on the driller's mark-up, checked during core mark-up in 1m intervals by the geologist. Drill core is measured to accurately quantify sample recovery.</li> <li>• Gold mineralisation at the CGN HGZ is typically concentrated in narrow oxidised structures. To ensure representative samples, whole core is sampled.</li> <li>• This release relates to result from the first three holes in the current programme. It is not known whether a relationship exists between sample recovery and grade.</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>	<ul style="list-style-type: none"> <li>• A qualified geoscientist logs the geology of all holes in their entirety including geotechnical features. Drill core is geologically and routinely geotechnically logged to a level of detail considered to accurately support Mineral Resource estimation. The parameters logged include lithology with particular reference to veining, mineralogy, alteration, and grain size.</li> <li>• All core is photographed. Recent digital photos and scans of film photography are stored electronically. All of the holes with results mentioned in the release have been logged and photographed in their entirety.</li> </ul>
<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> </ul>	<ul style="list-style-type: none"> <li>• For samples of core, whole core is taken and bagged.</li> <li>• Channel samples are bagged wet underground.</li> <li>• Samples are sent to SGS, Lae for sample preparation.</li> <li>• Samples dried in original calico bags at 105°C for 4+ hours in an Essa DO1 two cubic metre drying oven.</li> <li>• Dried samples crushed to 90 per cent passing 3 mm using a Rocklabs Boyd Mark III jaw crusher.</li> <li>• Crushed samples riffle split to collect 0.6 to 1.2 kilogram subsample.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <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>Subsamples pulverised to 90 per cent passing 75 µm, for approximately three minutes in either of two Essa LM2-P pulverisers with B2000 bowl sets.</li> <li>One sample in 20 wet sieved to check pulveriser performance to target standards.</li> <li>One sample in ten selected randomly and resplit prior to pulverisation, with control samples shipped as part of the batch to SGS Townsville.</li> <li>Prepared assay pulps placed in wire-top bags, with several included in a heat-sealed plastic bag in a shipping box, sealed with packaging and SGS security tape.</li> <li>Up to three shipping boxes placed in a labelled, security sealed and numbered poly-weave sack and shipped to SGS Townsville by DHL Express.</li> <li>Assaying at SGS, Townsville is by FAA505 methodology fire assay for gold</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>All samples are currently assayed at SGS, Townsville. SGS maintains robust internal QA/QC procedures (including the analysis of standards, repeats and blanks) which are monitored with the analytical data by CGN geologists.</li> <li>Ore grade Certified Reference Material standards and blanks are introduced into the sample stream by the geologists. Blanks are also introduced by SGS after the sample preparation stage in Lae before shipment to Townsville.</li> <li>Based on the results of standard analysis, in addition to the internal QA/QC standards, repeats and blanks run by the laboratory, the laboratory is deemed to provide an acceptable level of accuracy and precision.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Significant intersections are checked by the Senior Exploration Geologist.</li> <li>Twinned holes are drilled to represent approximately 20% of the holes drilled or at least one twinned hole per section line. The core is not sampled but logged and kept as a permanent whole core record.</li> <li>Original laboratory documents exist of primary data, along with laboratory verification procedures.</li> <li>The Crater Mountain drilling and channel sampling database exists in electronic form. The assay data are imported directly into the database from digital results tables sent by the laboratory. The Senior Exploration Geologist manages the drill hole assay database.</li> <li>No adjustment has been made to assay data received from the laboratory.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Location of data points</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• The initial datum was established using a single station differential GPS (DGPS) at two points. The mean of readings taken over 3 days was accepted as datum. Survey from the datum point is by theodolite with 20 second closure.</li> <li>• Grid is UTM WGS84</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• Current drilling at the HGZ is intended to identify the nature and style of mineralisation.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• At the HGZ a general north south trending zone of mineralization is interpreted with north south and east west mineralized fractures.</li> <li>• Current drilling intersects this zone such that sampling of north south structures is considered unbiased.</li> <li>• Possible east west cross cutting structures will require drill testing from additional drill pads in due course</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• For diamond drilling, whole core is collected in calico sample bags marked with a unique sample number which are tied at the top. Samples are transported to SGS, Lae under direct company supervision or secure independent contractor.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• No audits or reviews of sampling techniques and data were done.</li> </ul>

## 1.2 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>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>	<ul style="list-style-type: none"> <li>The results are from drilling and underground channel sampling within Exploration Licence EL1115 located at Crater Mountain, Lufa District, Eastern Highlands Province PNG. EL1115 is wholly owned by CGN. An application for renewal of EL1115 has been lodged.</li> </ul>																																			
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Four programs of diamond drilling were conducted at the Nevera Prospect from 1994, when EL 1115 was first granted with successive operators BHP Billiton Pty Limited (BHP), Macmin NL (Macmin) and Triple Plate Junction Plc (TPJ). CGN acquired control of EL1115 in 2008</li> </ul>																																			
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Crater Mountain Project lies within a typical large and complex New Guinea Orogen mineralised hydrothermal system. Mineralisation is associated with sub-volcanic magmatic activity related to the locally prominent Nevera Igneous Complex.</li> <li>The mineralisation models identified to date are: <ul style="list-style-type: none"> <li>Low sulphidation epithermal carbonate-base metal sulphide-gold Mixing Zone mineralization</li> <li>High sulphidation high grade epithermal quartz-pyrite-gold mineralisation (High Grade Zone "HGZ") extending from surface to several hundred metres depth, comprising a series of sub-vertical fractures and associated near-vertical mineralized shoots.</li> <li>Deep porphyry copper-gold mineralization.</li> </ul> </li> </ul>																																			
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Locations and orientation of the reported drill holes are tabulated below. Significant intercepts are reported in Table 1 in the body of the release.</li> </ul> <table border="1"> <thead> <tr> <th>Hole</th> <th>Depth (m)</th> <th>GridE</th> <th>GridN</th> <th>RL (m)</th> <th>Grid Azimuth</th> <th>Dip</th> </tr> </thead> <tbody> <tr> <td>NEV004</td> <td>200</td> <td>287955.00</td> <td>9280950.00</td> <td>1962</td> <td>74</td> <td>-50</td> </tr> <tr> <td>NEV009</td> <td>458</td> <td>287918.00</td> <td>9281105.00</td> <td>1930</td> <td>135</td> <td>-60</td> </tr> <tr> <td>NEV022</td> <td>282</td> <td>287994.00</td> <td>9281002.00</td> <td>1942</td> <td>85</td> <td>-50</td> </tr> <tr> <td>NEV026</td> <td>306</td> <td>287982.00</td> <td>9281090.00</td> <td>1968</td> <td>148</td> <td>-45</td> </tr> </tbody> </table>	Hole	Depth (m)	GridE	GridN	RL (m)	Grid Azimuth	Dip	NEV004	200	287955.00	9280950.00	1962	74	-50	NEV009	458	287918.00	9281105.00	1930	135	-60	NEV022	282	287994.00	9281002.00	1942	85	-50	NEV026	306	287982.00	9281090.00	1968	148	-45
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Criteria	JORC Code explanation	Commentary						
	<i>depth</i>	NEV034A	66.1	288002.60	9281003.30	1959	110	-24
	• <i>hole length.</i>	NEV034B	83.8	288002.60	9281003.30	1959	110	-24
	• <i>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.</i>	NEV035	80.2	288002.60	9281003.30	1959	110	-46
		NEV036	82	288002.60	9281003.30	1959	85.5	-25
		NEV037	63	288002.60	9281003.30	1959	85.5	-40
		NEV038	93.5	288002.60	9281003.30	1959	85.5	-43
		NEV039	85	288002.60	9281003.30	1959	131.5	-22
		NEV040	83.7	288002.60	9281003.30	1959	131.5	-40
		NEV041	80	288002.60	9281003.30	1959	110	-56
		NEV042	82.6	288002.60	9281003.30	1959	78	-57
		NEV043	80.6	288002.60	9281003.30	1959	107.5	-56
		NEV044	83.1	288002.60	9281003.30	1959	132	-52
		NEV045	82.7	288002.60	9281003.30	1959	96	-13
		NEV046	81.5	288002.60	9281003.30	1959	96	-39
		NEV047	83.5	288002.60	9281003.30	1959	124	-13
		NEV048	80.4	288002.60	9281003.30	1959	124	-36
		NEV049	81.8	288002.60	9281003.30	1959	127.5	-51.3
		NEV050	80.5	288002.60	9281003.32	1959	096	-45
		NEV051	81.9	288002.60	9281003.32	1959	096	23
		NEV052	80.6	288002.60	9281003.32	1959	124	18
		NEV053	80.4	288030.12	9281026.91	1964	160	-22
		NEV054	76.3	288030.12	9281026.91	1964	160	-45
		NEV055	80.3	288030.12	9281026.91	1964	160	-59
		NEV056	80.5	288030.12	9281026.91	1964	177	-23
		NEV057	71.0	288030.12	9281026.91	1964	177	-47
		NEV058	59.3	288030.12	9281026.91	1964	177	10
		NEV059	60.3	288030.12	9281026.91	1964	160	9

Criteria	JORC Code explanation	Commentary
<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>Drill hole intercept grades are reported as down-hole length-weighted averages with any non-recovered core within the reported intervals treated as no grade but included in the sample length. Significant intercepts are generally reported at a lower cut off of 2 g/t Au where intercepts are limited to 1.0m or less and to 1g/t for intercepts greater than 1.0m. No top cuts have been applied</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of lower grade results the procedure is to report the aggregate longer length of lower grade which includes a shorter length of higher grade.</li> </ul> <p>As an example, in the body of the release Nev35 has an intercept reported as:</p> <p>29.0m at 3.39 g/t Au from 43.0m, including 8.0m at 7.02 g/t Au from 43.0m, and 3.0m at 6.79 g/t Au from 56.0m</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <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>Current drilling is being carried out to understand the relationship between lithology, mineralisation widths and intercept lengths</li> <li>Results are reported for down hole length, true width not known</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>Appropriate plans and section views are presented in the release.</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</li> </ul>	<ul style="list-style-type: none"> <li>Only mineralised intersections regarded as highly anomalous, and therefore of economic interest, have been included in the results tables.</li> <li>Low grade mineralisation is characterised by grades considered to be sub-economic. Such</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></p>	<p><i>intervals are not reported in the results table.</i></p> <ul style="list-style-type: none"> <li><i>The proportion of each hole represented by the reported intervals can be ascertained from the sum of the reported intervals divided by the hole depth.</i></li> </ul>
<p><b>Other substantive exploration data</b></p>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Other exploration data have been reported in prior CGN Releases. These relate to surface geochemistry, geological mapping, geophysical survey, trenching and drilling.</i></li> </ul>
<p><b>Further work</b></p>	<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><i>The planned scope of the drilling programme is depicted on a plan and sections in the release showing testing depth extensions.</i></li> <li><i>Future drilling is dependent on the outcome of the current programme.</i></li> </ul>

## Appendix 3

### Mineralisation Sampling and Core Recovery

Mapping and sampling of the gold bearing structures in the underground development confirmed that coarse free gold is largely confined to narrow (<0.2m wide) oxidised structures within an intensely brecciated zone. High grade gold, up to 847g/t is found in the presence of hematite - limonite oxidation in narrow veins with residual vuggy silica alteration.

Three sets of high grade structures have been identified in underground development. Two of these sets of structures trend roughly NS and EW with a third shallow dipping set which are interpreted as link structures. Bonanza grades are typically found at the junction of these sets of structures. (ASX Release 19 November 2013: "Bonanza gold grades intersected at High Grade Zone") Drilling from one drill pad has been broadly on an easterly azimuth from 85° to 134°. Consequently the EW trending and shallow dipping link structures were less likely to be intersected in the current programme as these structures are sub-parallel to the general azimuth of the drill holes. Further holes have been drilled in a broadly south easterly direction from another drill pad to test the EW trending structures.

An ongoing drilling programme is being undertaken from selected surface and underground drill pads planned to target these structures

Logging of the drill core confirms this style of mineralisation in very narrow veins. However, drilling is being carried out with LTK48 standard tube gear which produces 35mm core. Owing to the fractured nature of the breccia and also that the mineralised structures are for the most part very narrow, it was decided to sample whole core. Cutting of 35mm core would result in significant loss of sample, particularly in friable ground, thus reducing the mass of sample and representivity for sampling purposes. All core is logged in detail and photographed before sampling. Regular twinned holes are planned in the programme to effectively retain a permanent whole core reference across the zones.



### Appendix 3

#### (Information about material drill holes)

Hole	Depth (m)	GridE	GridN	RL (m)	Grid Azimuth	Dip
NEV004	200	287955.00	9280950.00	1962	74	-50
NEV009	458	287918.00	9281105.00	1930	135	-60
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