

## **QUARTERLY ACTIVITIES REPORT**

**For the period ended 31 December 2016**

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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 gold mining 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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### **Key Points**

#### **Crater Mountain – High Grade Zone ("HGZ") Gold Mining Project, Papua New Guinea**

- Maiden JORC high grade gold resource
- 2nd Adit development

### **Corporate**

- Annual General Meeting

## **CRATER MOUNTAIN, PNG**

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

#### **Crater Mountain – High Grade Zone (“HGZ”) Gold Mining Project, Papua New Guinea**

- **Maiden high grade JORC gold resource**
- **Potential to increase gold resource substantially**
- **3 major gold veins identified contain most the gold**
- **Drilling programme to target extensions of identified high grade veins**
- **Gold production**
- **2<sup>nd</sup> adit development**

During the quarter the Company announced a maiden inferred resource estimate reported in accordance with JORC guidelines for its HGZ gold mining project of 44,500 tonnes at 11.9 g/t for 17,100 ounces of gold (cut- off grade of 5 g/t Au).

With the project having gold processing facilities on site, the maiden resource paves the way for increased production with minimal additional capital expenditure or development time.

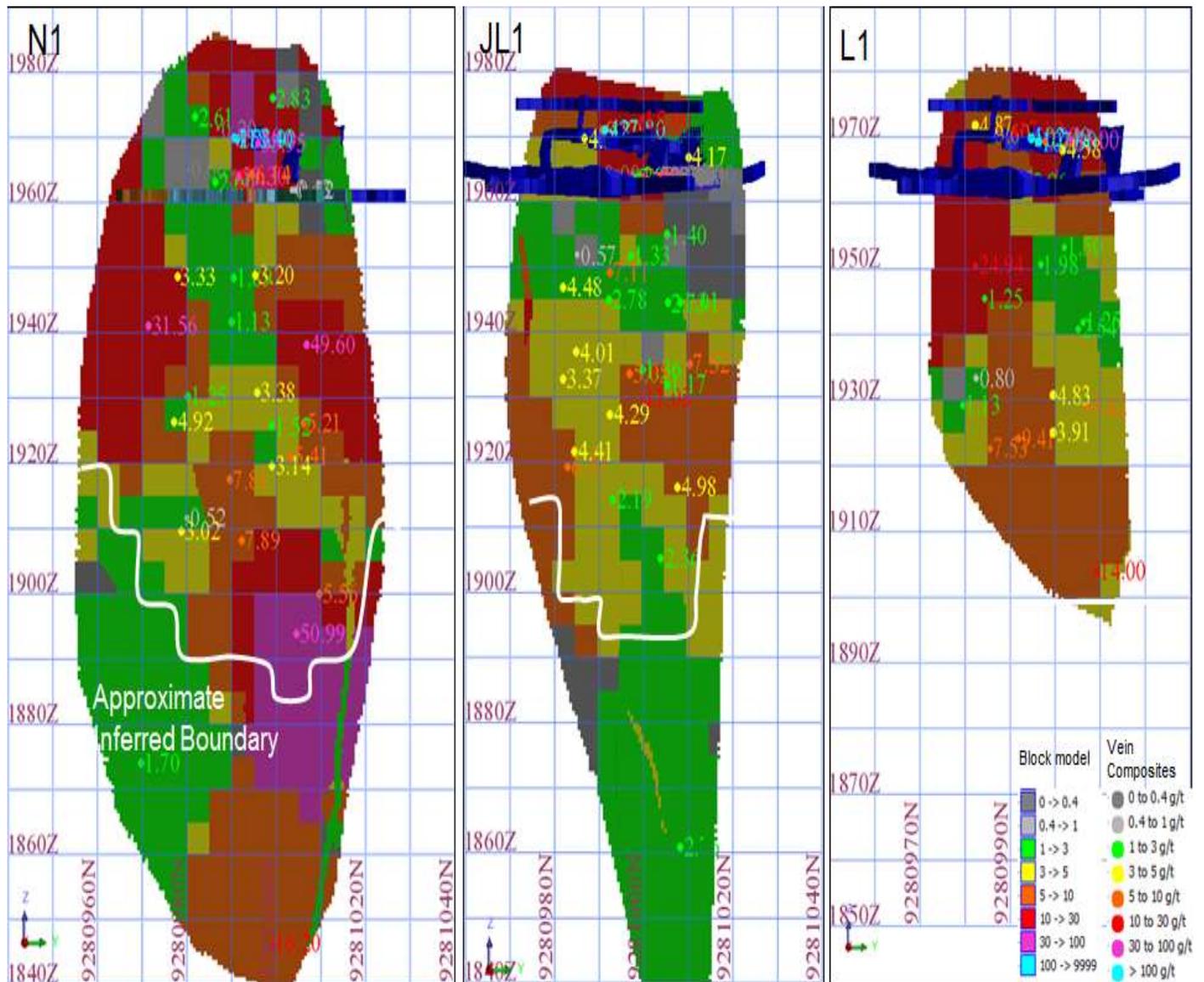
The initial Inferred Resource at HGZ comprises:

<u>Resource Category</u>	<u>Tonnes</u>	<u>Grade (Au g/t)</u>	<u>Gold Oz</u>
Inferred - cut-off of 5g/t au	44,500	11.9	17,100

Within this resource at a higher cut-off of

> 7.5g/t Au	23,500	17.2	13,000
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As part of the resource definition, mapping of the HGZ showed three distinct major high-grade gold veins (Figure 1). The three veins are closely linked and are estimated to carry 11,800 ounces of gold. The Company has refined the mining method for maximum gold extraction from the higher cut-off grade of 7.5g/t Au implementing a more focussed mining plan. This will allow more efficient, targeted gold production. The mining plan will be implemented with the completion of the 1930 Level via a new adit which is currently being established.



**Figure 1 - - N-S Composite Sections: The 3 identified high grade veins N1, JL1 and L1**

This maiden resource marks a significant milestone for the Company, confirming the potential for profitable gold mining from the HGZ project. The report also provides us with more detail of the high-grade veins enabling us to target more selective mining of the 3 main high grade veins going forward. Whilst the initial JORC resource may seem modest, the gold is accessible and all infrastructure is in place, allowing the Company to move quickly to mining of the 3 veins as well as other cross cutting structures.

The maiden resource estimate only considers the HGZ as identified to date. Development of the 1930 Level will pass through approximately 100m of previously unexplored ground adjacent to the high-grade zone. This area is considered prospective for finding additional gold bearing structures.

The potential to increase the resource is also considered substantial given that drilling to date has mostly been confined to a maximum depth of 75m from surface (Figure 2). However there

is also evidence from drilling that gold is encountered at least to a depth of 128m from surface (NEV022). The Company plans to commence in-fill drilling from the 1930 level.

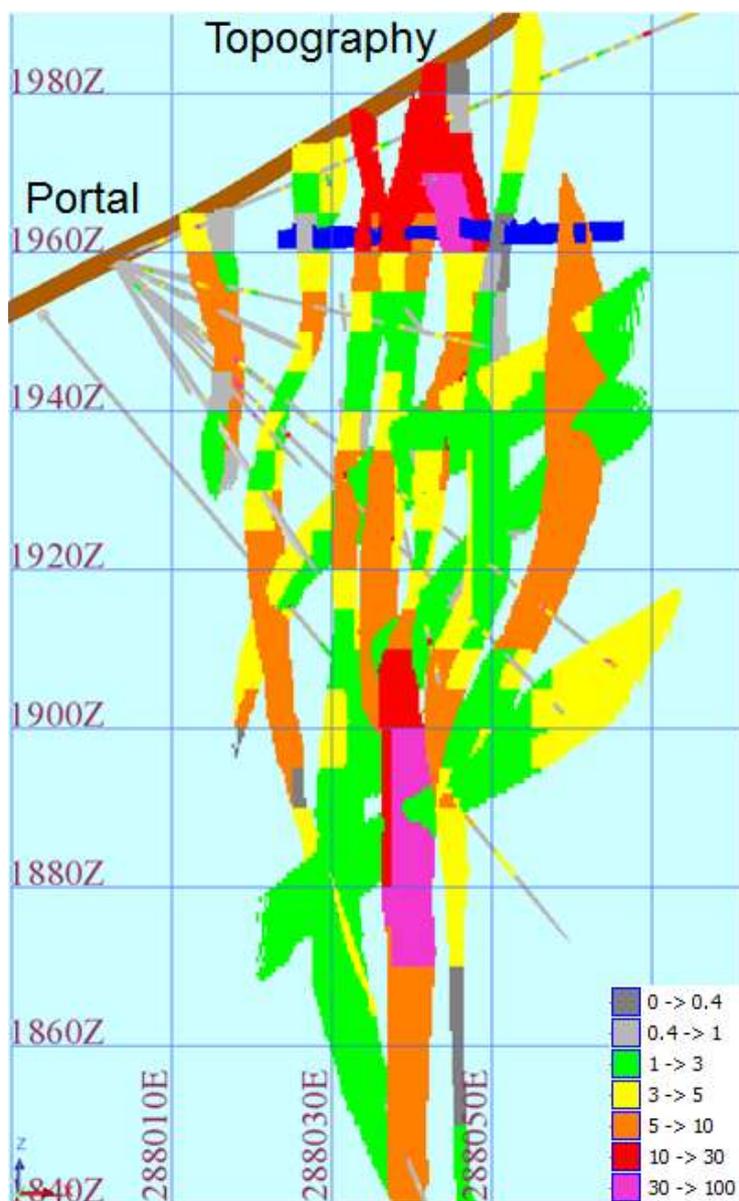


Figure 2 - Mineralised Zones at Crater Mountain Deposit. (9281000 mN)

The resource estimate was completed by Ian Taylor, (AusIMM(CP)) of Mining Associates. Mr Taylor stated in his report to the Company that there is an opportunity to expand the resource along strike and laterally with further drilling and mapping and also to improve the confidence of the mineral resources internally by infill drilling and development. Lateral drilling to extend resources should be targeted based on existing intersections and understanding of cross structures and the steeply plunging shoots from the newly developed working pad at the 1930 level. Infill drilling should confirm the strike continuity of vein systems particularly following up intersections identified in the deep drill hole NEV022. Infill drilling and further channel sampling is required to increase level of the resource categories.

An opportunity exists for deeper drilling targeting the high-grade shoots during development of the 1930 m RL adit. A drill cuddy should be cut at 9280980 mN and 287990mE (1934 mRL) to provide a suitable platform for 4 to 8 holes (Table 1 & Figure 3) targeting the extensions of identified high grade shoots, particularly veins N1 and L1.

**Table 1: Proposed Drill Holes**

Proposed Hole	Dip	Azimuth	Depth	Extension or Infill
P1	-6	60	85	E
P2	0	100	65	I
P3	15	110	70	E
P4	-36	60	90	E
P5	-42	65	90	E
P6	-48	70	85	I
P7	-48	85	80	I
P8	-44	100	70	I

A Long Section showing the outline of the block model, including unclassified targets and proposed targeted drill intercepts Figure 3.

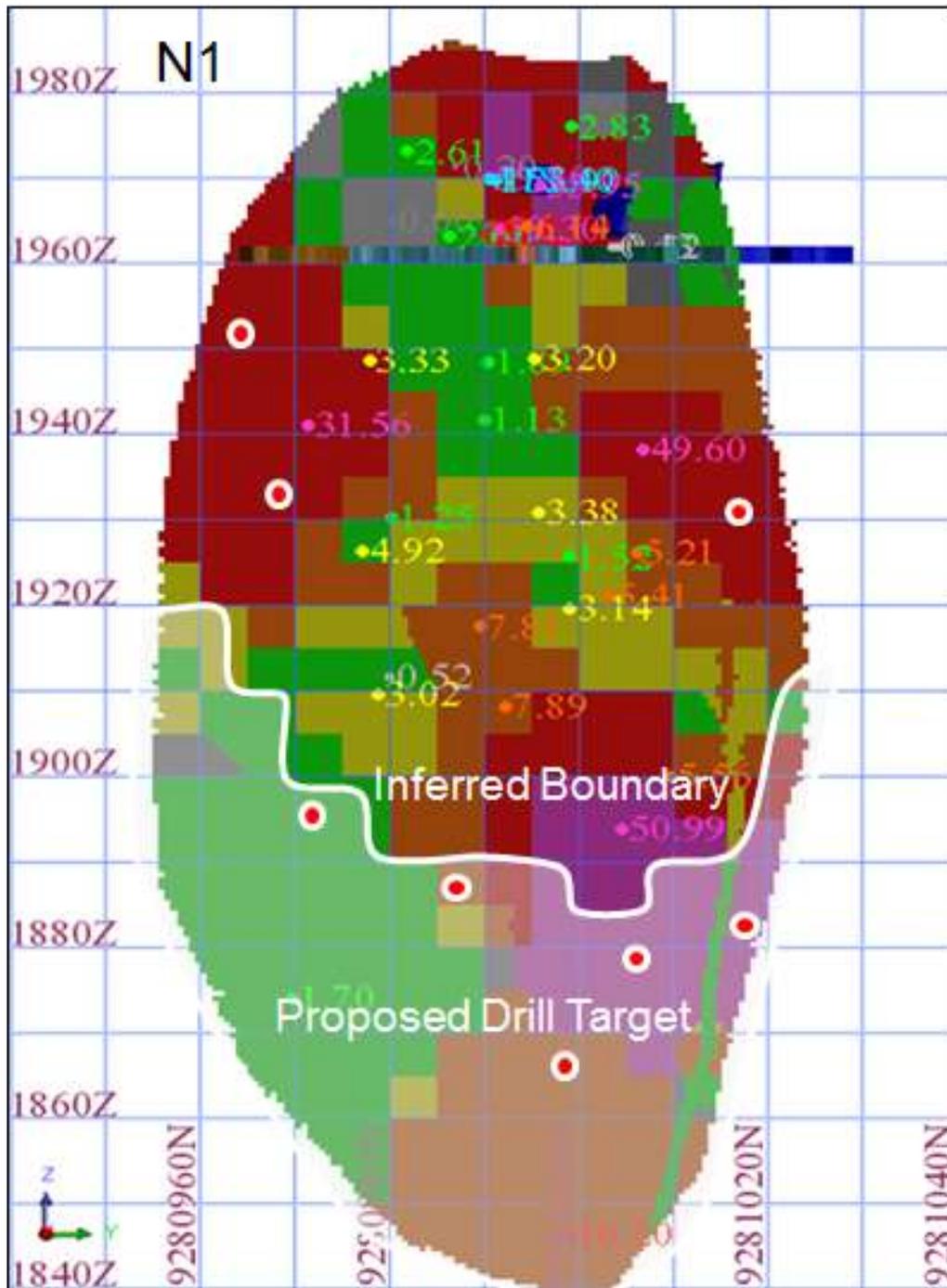


Figure 3 Long Section View showing Proposed Drill Intercepts

## HGZ independent technical review.

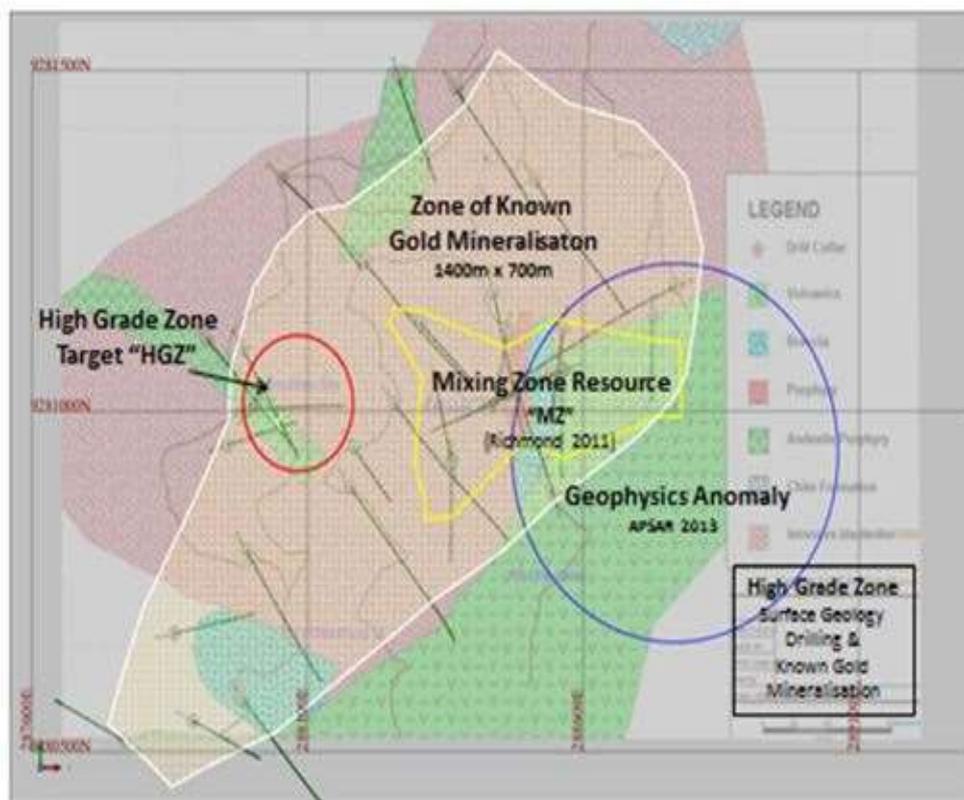
Previously, following a site visit in mid-September 2013 by Mining Associates (MA) principal Mr Andrew Vigar, concluded that the target for the HGZ project based on selective underground mining may be stated as:

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

MA 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.”*

MA did caution that the potential quantity and grade was conceptual in nature. MA was commissioned by the Company to delineate a target for the HGZ area.

In its report, MA stated that the HGZ Target was defined by a 100m radius circle centred on the area of artisanal workings (Figure 4).



**Figure 4 - High Grade Zone in relation to known mineralisation and the Mixing Zone resource**

## Gold production

The focus in the quarter was the establishment of the 2<sup>nd</sup> adit, and as a consequence revenue received during the quarter was AUD89,000. The Company expects revenue to increase substantially when mining from the 2<sup>nd</sup> adit commences.

## **Second adit development**

The Company's focus switched to the development of the 2<sup>nd</sup> adit from the 1930 level. The Company expects that gold production and the recovered gold grade will increase when mining commences from the 1930 level.

In addition, enhancements to the milling circuit have been completed, involving the installation of a vibrating screen and the placement of the mills in series rather than in parallel. This will result in a considerable increase in throughput and less wear of hammers and discharge screens.

The Company is confident that the addition of the 2nd Adit will result in higher gold production. The adit will access the depth continuity of the high-grade zone as demonstrated by the previous drilling and sampling programs undertaken by the Company.

The HGZ is high grade high-sulphidation epithermal quartz-pyrite-gold mineralisation, extending from surface to possibly several hundred metres 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 as encountered by the Company) in the base of a mineralised spur from 2005 to 2011.

## **Mixing Zone Project**

While the current focus remains on the HGZ mine, there remains potential to increase the resource of 24Mt at 1.0 g/t Au for 790,000 ounces (which includes 9.4Mt at 1.46 g/t using a 1.0 g/t Au cut-off for 440,000 ozs) at the nearby Mixing Zone (MZ) 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).

The MZ project lies entirely within the Company's ML 510. This offers scope for fast tracking the development of the MZ project.

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.

## **CORPORATE**

### **Annual General Meeting**

All resolutions at the Company's 2016 Annual General Meeting on 30 November 2016 were passed.

## **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	Renewal lodged	6/09/2016	19.2
EPM 9438	Mount Angus	CGN	100	Granted	14/07/2016	19.2
EPM 13775	Wallabadah	CGN	100	Granted	5/03/2017	32
EPM 16002	Foote Creek	CGN	100	Renewal lodged	30/01/2013	28.8
EPM 18616	Black Mountain	CGN	100	Granted	18/06/2018	96
EL 1115	Crater Mountain	Anomaly Ltd <sup>2</sup>	100	Renewal lodged	25/09/16	41
EL 2203	Ubaigubi	Anomaly Ltd <sup>2</sup>	100	Granted	10/09/17	88
EL 2249	Crater Mountain	Anomaly Ltd <sup>2</sup>	100	Renewal lodged	11/11/15	10
EL 2318	South Crater	Anomaly Ltd <sup>2</sup>	100	Granted	10/09/17	20
EL 2334	Crater Mountain	Anomaly Ltd <sup>2</sup>	100	Granted	21/05/17	68
EL 2335	Crater Mountain	Anomaly Ltd <sup>2</sup>	100	Granted	22/05/17	78
EL 1972	Gameta	Anomaly Ltd <sup>2</sup>	100	Renewal lodged	19/12/16	37
EL 2180	Wapolu	CGN	100	Granted	27/06/17	67

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.

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 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 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 metres 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

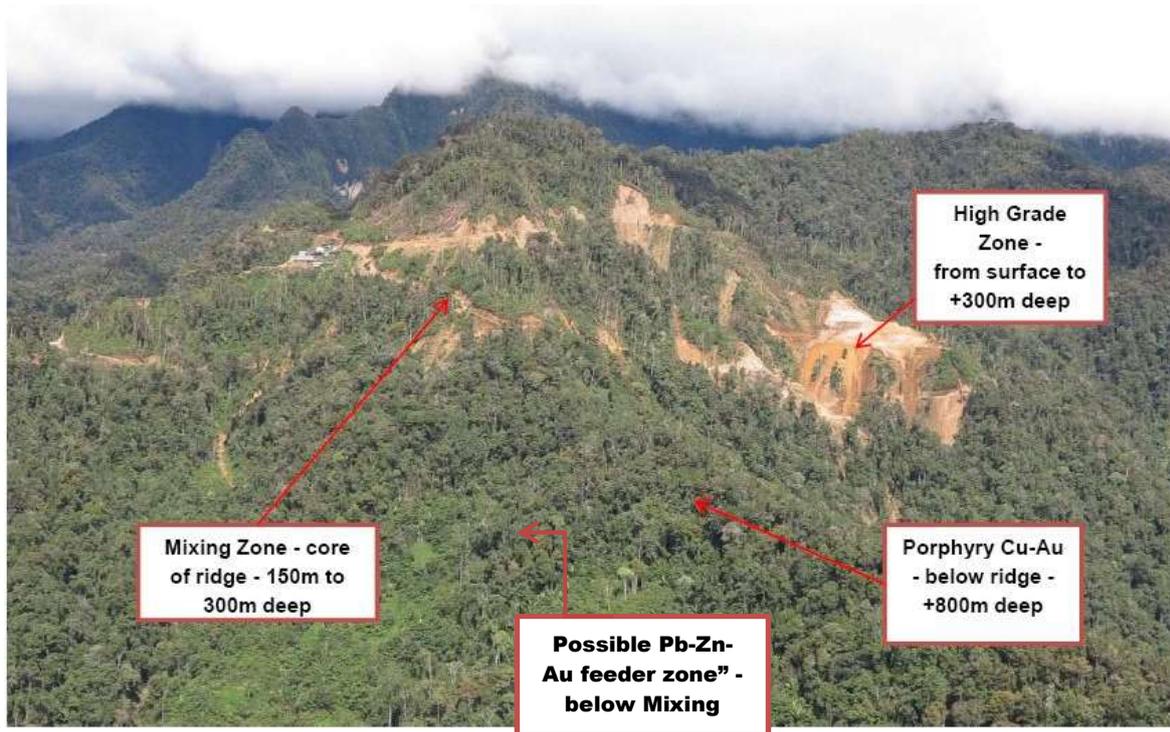


Figure 1 - Nevera Prospect

## 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 2 – 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.

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 Graphite Project - Queensland Australia**

A potentially large graphite deposit is located within EPM 8795 and EPM 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 EPM 18616. 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.

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 future 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.

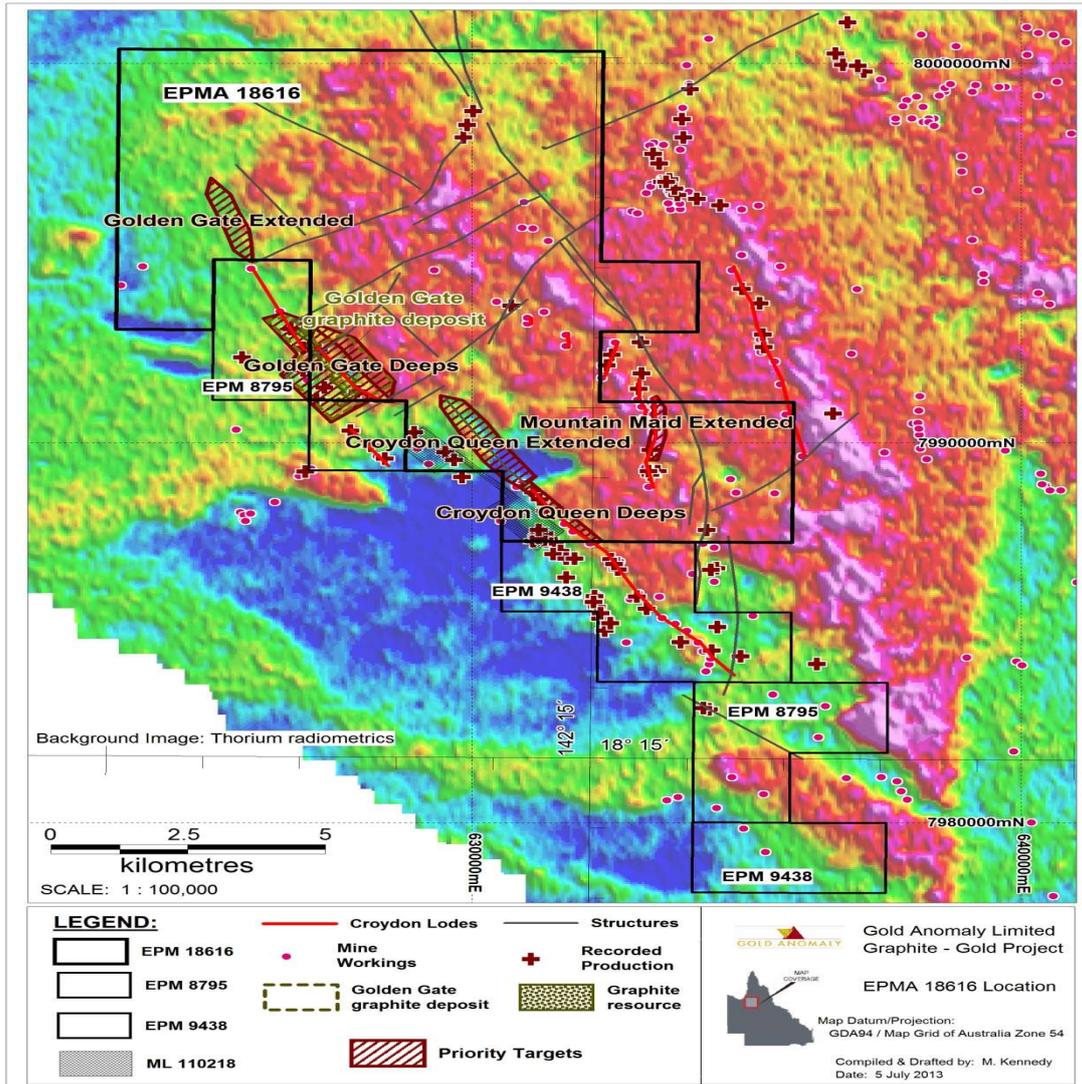


Figure 3 - Location Map of EPM18616 showing the Golden Gate graphite deposit as well as principal gold exploration targets