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## **QUARTERLY ACTIVITIES REPORT**

**For the period ended 31 March 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 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

- Custom processing plant installed and commissioned
- Higher Gold Grades identified in Central Zone at HGZ project
- Discovery of High grade gold sampling results 430m south of HGZ project

#### Corporate

- Share placements

## **CRATER MOUNTAIN, PNG**

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

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

- **Custom processing plant installed and commissioned**
- **Higher Gold Grades identified in Central Zone at HGZ project**
- **High grade gold sampling results 430m south of HGZ Project**

During the quarter the Company’s upgraded gold mining processing plant arrived in PNG and was mobilised to site for commissioning.

The upgraded mining plant will commence production in the short term. Full mining capacity is anticipated during the 2nd quarter 2016 as the mining plant upgrade is fully commissioned.

The upgraded mining plant includes two hammer mills, two high speed centrifugal concentrators, gravity shaking tables and a new compressor.

The incorporation of the upgraded mining plant will result in higher gold mining production. The new centrifugal concentrators and shaking tables will result in higher gold grades being recovered.

A refreshed geological interpretation has resulted in an improved understanding of the controls to mineralisation enabling mining to be better targeted.

The Company is excited by the upcoming phase, during which we anticipate an acceleration of our process of transition from gold developer to profitable gold producer.

In addition to mining the HGZ, our recent discovery at the South Artisan Workings (SAW) Zone (refer ASX Announcement 1 February 2016) also represents the potential for additional mineralisation in close proximity to the HGZ gold mine with a potentially longer mine life operation.

The objective of the Company is ongoing cash flow to establish the Company as a profitable gold producer. The HGZ project is expected to be a high margin operation because of our average low cost of production and the gold price in Australian dollar terms. We anticipate that the HGZ mine will generate strong cashflows, 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 will rise.

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.

### **High Gold Grades in Central Zone at HGZ Gold Mine**

- **Central high grade gold zone identified**
- **Drilling confirms central zone continues to depth**

Development at the HGZ gold mine project has so far identified an approximate extent of 60m NS and 30m EW identifying those structures considered to be controlling the gold mineralisation and confirming the results of diamond drilling carried out in 2014. The project remains open in all directions.

An important development is the identification of a strong link structure trending roughly NE – SW linking the prominent NS structures thought to have controlled the gold mineralisation. Reinterpretation of geological mapping and alteration shows a central core of massive crystalline silica with strong presence of structurally controlled manganese oxide associated with hematite and limonite. The brittle nature of this zone has been conducive to formation of tension cracks allowing the introduction of mineralising fluids.

More visible gold has been observed with a higher frequency of elevated gold grades in this central zone than elsewhere in the system. Refer to Figure 1.

This is validated by bonanza grades reported in development in November 2013 and also drill hole Nev 59 which passes through the middle of this zone, which returned 9.0m at 30.8 g/t Au from 28.5m, including 5.0m at 33.1 g/t Au and 2.5m at 44.3 g/t Au. (refer ASX release of 19 November: “Bonanza gold grades intersected at High Grade Zone” and ASX release of 4 May 2015 “High Grade Zone Mining development and Drilling Update”).

The highest grades encountered in the Link development are interpreted to coincide with the intersection of several flat dipping, around 60 deg, cross cutting EW structures which terminate on the JL and NVI structures either side.

Drilling confirms that this zone continues to depth and can be accessed from future lower level development.

This fresh geological interpretation which results in an improved understanding of the controls to mineralisation will enable mining to be focussed within the zone described above. This will allow delineation of the extent of the shoots so they may be mined up and down dip.

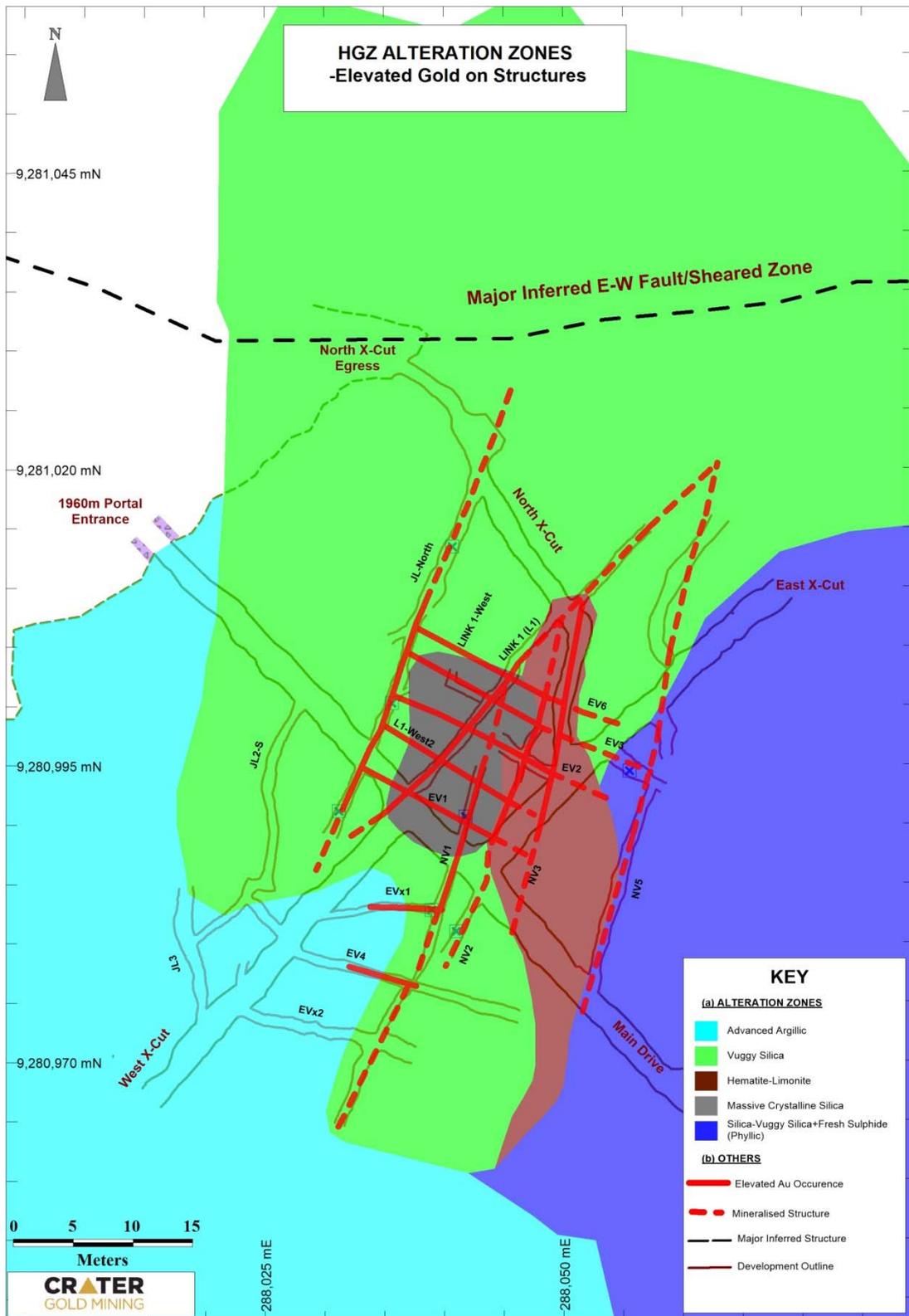


Figure 1 - Geological Interpretation of Structural Controls and Alteration

## **High Grade Gold Discovery 430m south of HGZ gold project**

- **Gold assays up to 46 g/t Au**
- **Geology and mineralisation similar to HGZ gold project**
- **Possible extension of the HGZ project, or an additional deposit**
- **Programme to test new zone commencing as soon as practical**

During the quarter the Company announced the discovery of further high grade sampling results within ML 510, 430m south of the HGZ gold project. The new mineralized zone has been named the South Artisan Workings (SAW) Zone and is shown in Figure 2.

The Company undertook a sampling program at the SAW Zone after the continued surveying of the ML area lead to the discovery of three horizontal drives previously excavated by local artisanal miners. The new spur is located approximately 430 metres south of the Company's current High Grade Zone project.

The Company's sampling results included a sidewall channel sample assaying 46.6 g/t Au over 1.0m situated 2m from the entrance and a vein sample of 18.0 g/t Au over 0.2m situated 3m from the entrance of the same working. The workings follow an east-west trending structure at different elevations between 1920 and 1945 mamsl. This compares to the current HGZ operation at 1960 mamsl.

The similarities with the Company's current HGZ project suggest this discovery could be an extension of the current HGZ project or another independent high grade gold deposit.

Independent consultant Andrew Vigar of Mining Associates reported in October 2013 following a site visit to the HGZ project 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 and that "the broader Crater Project area is at least 20km across and is a major system".

The discovery of the SAW Zone is consistent with Vigars' report and augers well for the delineation of additional mineralisation within practical transport distance from the existing HGZ operation.

An exploration programme to test the new zone will be undertaken as soon as possible. The follow up programme will involve systematic mapping, trenching and sampling to delineate the possible extent of the mineralised structures.

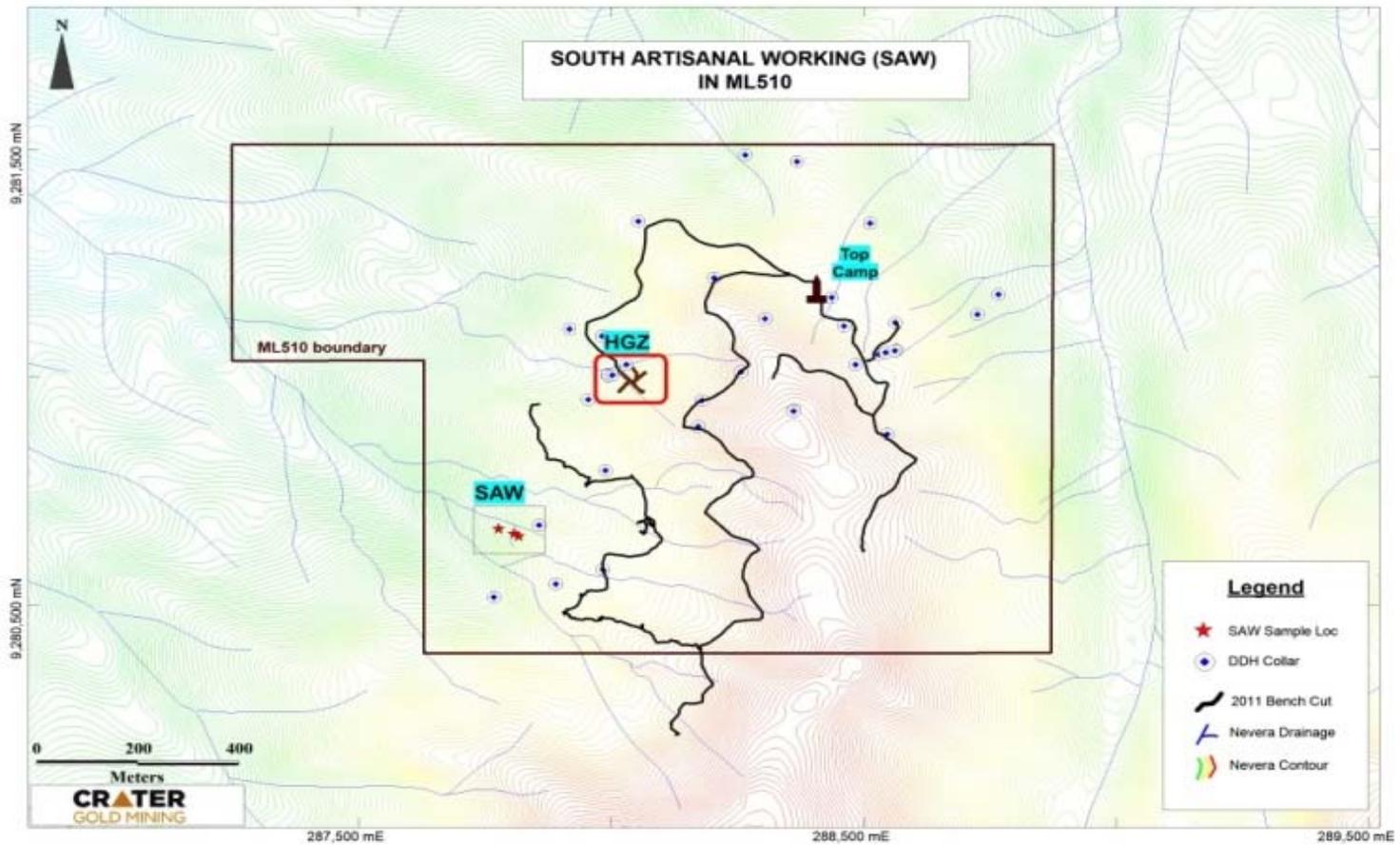


Figure 2 - Location of Artisanal workings



*Figure 3 - View from inside one of the workings*



*Figure 4 - View of entrance to one of the workings*

## Corporate

### Share Placements

During the Quarter the Company raised \$1.3million through the placement of 16,250,000 shares at 8 cents per share to a combination of clients of Gobarralong Capital and to a selection of international institutional investors. At the date of this report, all 16,250,000 shares have been quoted on ASX, however 2,562,500 of those shares, pertaining to \$205,000, will be issued when that funding is received. This is expected to occur shortly. The Appendix 5B released for the quarter ended 31 March 2016 does not include the 2,562,500 shares referred to above

### **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:**

Particulars	Project Name	Registered Holder	% Owned	Status	Expiry	Area (Km <sup>2</sup> )
EPM 8795	Croydon	CGN	100	Granted	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	Granted Renewal lodged	30/01/2013	28.8
EPM 18616	Black Mountain	CGN	94 <sup>1</sup>	Granted	18/06/2018	96
EL 1115	Crater Mountain	Anomaly Ltd <sup>2</sup>	100	Granted	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>	90	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	Granted	19/12/16	37
EL 2180	Wapolu	CGN	100	Granted	27/06/17	67

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

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

## **APPENDIX 1 TO QUARTERLY REVIEW OF OPERATIONS AS AT 31 MARCH 2016**

### **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

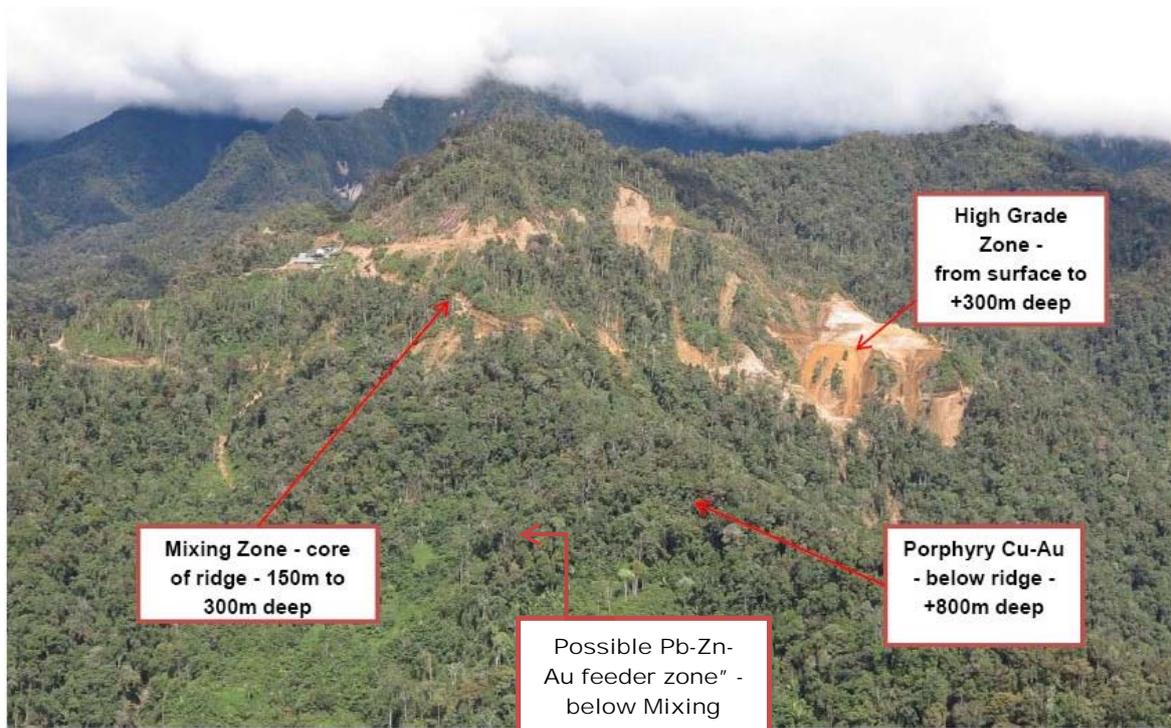


Figure 5 - Nevera Prospect

## 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 6 – 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 1 - 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.

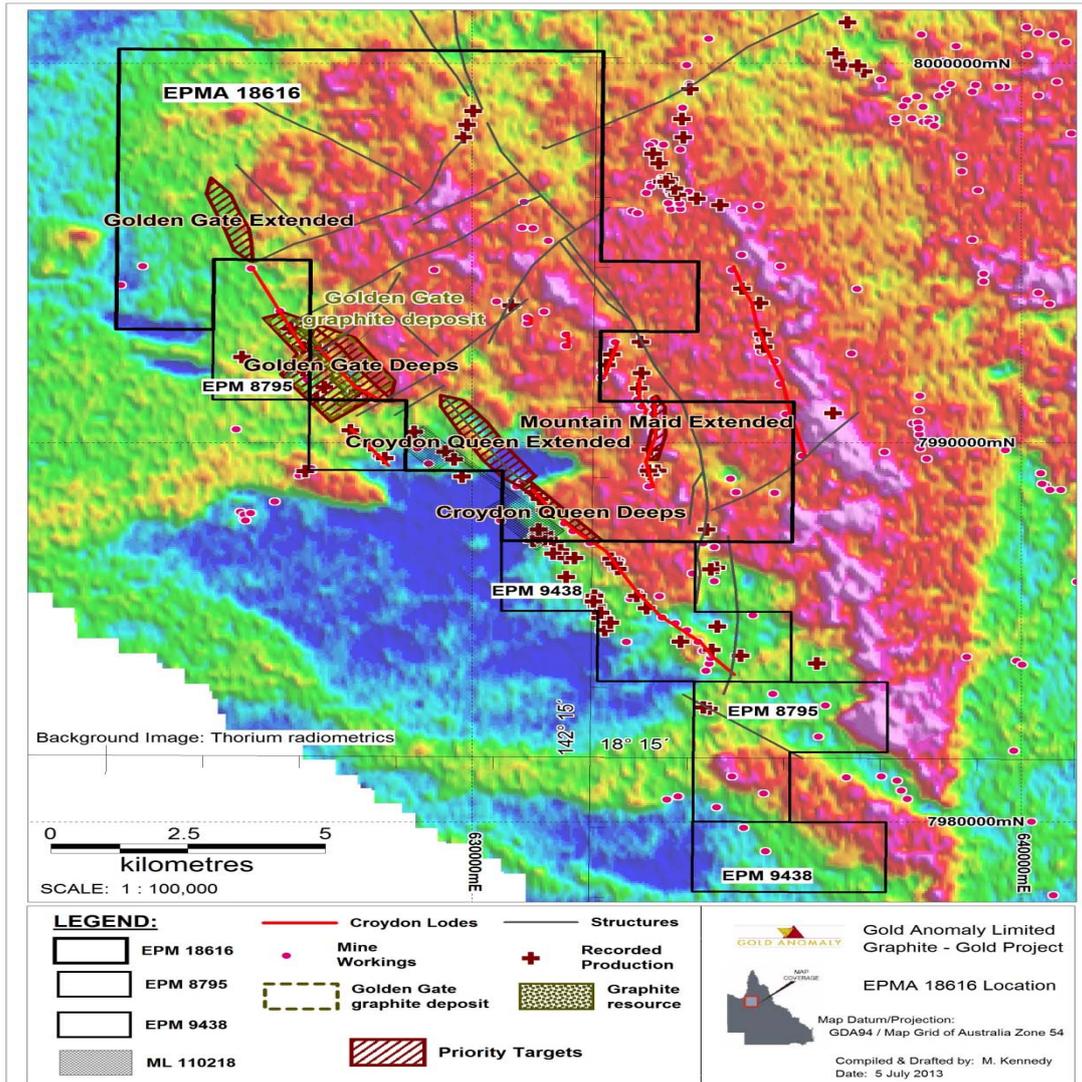


Figure 7 - Location Map of EPM18616 showing the Golden Gate graphite deposit as well as principal gold exploration targets

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.