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## **QUARTERLY REPORT MARCH 2013**

**30 April 2013**

### **HIGHLIGHTS**

#### **Copper Hill – Molong Project**

- The company most recently modelled a mine and mill scenario with a production rate of 8 million tonnes of ore processed per year yielding a concentrate grading 25% copper and 22 g/t gold over a mine life of 7 years. At this scale, the project model demonstrates positive cash flow, but at rates of return that are unlikely to attract finance from conventional Western sources.
- The Company has now determined to recommence exploration within the Molong exploration licence beyond Copper Hill with a view to increase resource tonnage and, potentially, grade. A 5,000 metre drilling program has been designed to test four mineralised prospects adjacent to, and along strike from the Copper Hill resource.

#### **Other Projects**

- Cargo – an in-house, manual resource estimate was completed to allow financial modelling of selective mining approaches of higher grade gold zones. The study indicates in-fill drilling is required. Metallurgical results indicate further test-work is likely to deliver improved results.
- Cobar Region - deep drilling planned for Burra in the current quarter.
- South Australia – GCR advised of final sign-off by DMITRE of GCR's Exploration Work Approval. Drill sites have been marked out northeast of Coober Pedy in the Oolgelima EL 4427 and drilling contractors invited to tender.

## **Copper Hill – Molong Project**

The most recent financial studies of the Copper Hill project have been based on the optimal 8 million tonnes of ore per year, mined, milled and processed, producing a 25% copper and 24 g/t gold concentrate. Based on the studies carried out and comparisons with equivalent-sized current development projects, the advancement of Copper Hill requires a combination of lower development costs, higher copper and gold prices, a lower A\$ and higher grade ore in order to deliver a project bankable by Australian lenders.

A 5000 metre exploration drilling program has been designed to test remaining prospects adjacent to the Copper Hill resource. These include the northeast shoulder of the Copper Hill IP anomaly (including the high grade gold zone intersected in GCHR446 with 5 metres @ 4.43 g/t gold), the Power IP anomaly to the east and, along strike to the southeast, the Hayshed and Vale Head copper-gold prospects. Other zones, within the Molong exploration licence, containing geophysical and geochemical anomalies will also be reviewed.

## **Cargo Gold**

The previously reported Inferred Resource estimates at Spur-Dalcoath (ASX 2012-05-21) were examined in-house for potential as mining operations. The resource figures used were:

- 10.4 million tonnes at 0.84g/t gold for 283,000 ounces of contained gold using a 0.5g/t gold cut-off grade.
- And, at a higher cut-off grade of 0.8g/t gold, 4 million tonnes at 1.19g/t gold containing 154,000 ounces of gold.

Gold recovery by gravity separation seemed the best chance to take the project forward due to its simplicity and low capital cost. However, metallurgical test work indicated low recoveries by gravity of between 21% and 34% and, therefore, a requirement for a crush-grind-float mill and plant. On this basis, the mill feed grades of the resources were deemed too low to deliver adequate financial returns in the current market.

In order to estimate a higher grade resource, a more tightly constrained manual model was created. This model used a 1g/t gold cut-off grade and resource prisms based on the steeply dipping, higher grade vein structures measured in drill core. The estimation will be used to examine the potential for selective, high grade mining.

The manual resource is not JORC-compliant. Further drilling is under consideration to increase the confidence in the geological model and data for upgrading to the JORC categories required. Drill testing of the remaining Cargo lodes and drilling strike and down-dip extensions at Spur-Dalcoath and Essex is also required.

It was noted during the resource estimate that there are numerous 1-metre intercepts of high grade (typically > 8 g/t gold up to 18 g/t gold that are not captured by the current cut-off parameters; some of these have insufficient drilling density to establish

continuity to the required level of confidence. Other high grade veins may be captured when the lower grade selvages are captured by a lower cut-off grade (0.75 or 0.8 g/t gold). With in-fill drilling, these veins have potential to add significantly to the contained ounces of gold at Spur-Dalcoath.

### ***On-going metallurgical evaluation at Cargo***

Metallurgical test-work continues at ALS-Metcon on selected core from the previous drilling program. Test work focused on the potential to recover gold by gravity methods and then via cyanide leaching of sulphide concentrate. Gravity recoveries were not encouraging but gravity-recovered gold could be added to a sulphide concentrate to be treated at one of two nearby licensed facilities near Parkes and Condobolin, also in central New South Wales. The capacity of these CIL leach facilities to take Cargo concentrates has not been established.

The most recent metallurgical test results are set out below showing recoveries for a range of transition (between oxidised and primary) and primary samples over a range of gold grades.

Sample		Transition			Primary		
		Low*	Mid*	High*	Low	Mid	High*
Test no./ Sample		TL1	TM1	TH1	PL2	PM2	PH1
Grade Ranges		0.3< - <0.5	0.5< - <1	>1	0.3< - <0.5	0.5< - <1	>1
Head Grade Au, g/t		0.56	0.78	1.77	0.46	0.90	4.09
<b>Gravity rec'y ex feed %</b>	<b>1</b>	24.8	31.1	30.8	21.4	24.3	33.9
<b>Flotation recovery %</b>							
Float ore feed basis	<b>2</b>	44.4	42.0	47.7	70.3	66.6	59.8
Gravity + Float % <b>(1+2)</b>		69.2	73.1	78.5	<b>91.7</b>	<b>90.9</b>	93.7
<b>Conc. leach recovery %</b>							
Unit basis, from float con		96.0	91.4	79.3	<b>87.3</b>	<b>91.6</b>	42.1
Overall basis, from feed	<b>3</b>	42.6	38.4	37.8	61.4	61.0	25.2
<b>Total recovery % (1+3)</b>		<b>67.4</b>	<b>69.5</b>	<b>68.6</b>	<b>82.8</b>	<b>85.3</b>	<b>59.1</b>

(\* A free gold auxiliary flotation collector was not used on these samples. Examination of the flotation products under the microscope revealed very fine, residual, free gold grains not recovered by gravity, nor consistently collected in flotation. An auxiliary collector was added for the primary low- and mid-grade sample tests giving better collection, with confirmation in the assay results and consequent recovery to the flotation concentrate.)

#### Notes:

The interval set from which the composites were formulated, "Low, "mid" and "high" refer to gold grades and the grade range sets out the grade parameters for the composites of core chosen for test work.

Gravity recovery ex-feed is the percentage of head grade recoverable using a centrifugal (gravity) process.

Flotation recovery percentage, shows the recoveries, by flotation, of pyrite (float ore feed basis), that is, the recovery of the original gold to float concentrate after gravity but before cyanide (CN) leaching. Thus, the two recovery values are additive of the overall recoveries (1+2) but only to a sulphide + gold concentrate.

The pyrite concentrate does not appear to be refractory to cyanide leaching. The low solubility exhibited by the two high grade samples was most likely due to cyanide depletion during phases of the leach test, attributable in large measure to CN consuming copper mineralisation.

The 'overall basis, from feed' results are the leach recoveries presented on feed of crushed and ground ore over the range of grades shown, as distinct from a float concentrate basis.

'Gravity+Float % 1+2' is recovery to concentrate, 'Total recovery % 1+3' is to solution. This would then go to an electrowinning circuit for recovery to bullion.

GCR's consultant advises that some flotation recovery improvement is possible on transition samples, and is expected on Primary high grade material.

### **Cobar Region: Burra**

A review of previous drilling at Burra has been completed and all electromagnetic survey data (airborne, ground and down-hole) has been compiled and sent for interpretation to Adelaide Mining Geophysics. It is hoped this work will validate the initial interpretations made of the last airborne survey and, in conjunction with a new look at the down-hole EM, provide precise target zones for the deep (400 - 500 metre) drilling required.

Results from previous drilling, between surface and 200 metres depth at Burra, are similar in grade and thickness to the equivalent depth intervals at Peel Mining's recently discovered Mallee Bull prospect.

Drilling is planned for the current quarter with the rig from Cargo to be mobilised to Canbelego in May.

### **South Australia – Gawler Craton IOCG**

*Oolgelima Hill, Giddinna, Warriner Creek, Codna Hill, Koolymilka, Stuart Range*

Golden Cross holds five granted tenements covering 3,166 km<sup>2</sup> within the northern Gawler Craton in South Australia near Coober Pedy, an excellent base from which to conduct the planned 2500 metre drilling program. Six iron-oxide-copper-gold (IOCG) deposits targets have been defined by the combination of magnetic and gravity data. The geophysical characteristics are similar to those from the Prominent Hill mine and Carrapateena deposit (under evaluation).

GCR had, at the end of the March Quarter, all approvals in place except for the final Exploration Work Approval which was under review by the Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE). Approval has

since been granted and drilling will now commence as soon as a rig can be mobilised to site. Drilling contractors have been invited to tender for the work.

Additional gravity surveys are planned to provide infill data for currently surveyed areas, including other drill targets, on tenements within Arabana Lands, where site clearances are pending Woomera access permissions and completion of the follow-up gravity survey work, the results of which will determine final drill site locations and access area boundaries.

### **Geophysical Interpretation – Oolgelima EL 4427**

Adelaide Mining Geophysics continued to refine interpretations of combined magnetic and gravity data and has advised where infill gravity stations are required. When this program is completed, and data added to the existing models, it will provide better resolution to site the drill holes planned in the next round of drilling.

### **Compliance Statements:**

*The information in this report that relates to Exploration Results is based on information compiled by Kim Stanton-Cook, who is a member of the Australian Institute of Geoscientists, is a full-time employee of GCR, and has sufficient experience relevant to the styles of mineralisation and types of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Mr Stanton-Cook consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.*

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## **Corporate Directory**

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<b>Board of Directors</b>	<b>Issued Share Capital</b>	<b>Registered Office</b>
Steve Gemell Chairman	Golden Cross Resources Ltd has 1,361 million ordinary shares on issue which are listed on the ASX.	Golden Cross Resources Ltd 22 Edgeworth David Avenue Hornsby NSW 2077 Australia.
Kim Stanton-Cook Managing Director		
Li Xiaoming Non-Executive Director		
Jingmin Qian Non-Executive Director		
Suzanne Qiu Non-Executive Director		
Li Yan Alternate Director for Mr Li	<b>Share Registry</b> Boardroom Pty Limited Level 7 207 Kent Street Sydney NSW 2000	Phone: (61 2) 9472 3500 Fax: (61 2) 9482 8488 <a href="http://www.goldencross.com.au">www.goldencross.com.au</a>
<b>Company Secretary</b> Simon Lennon		
<b>Exploration Manager</b> Bret Ferris	Phone (61 2) 9290 9600 Fax (61 2) 9279 0664	<b>Please direct shareholding enquiries to the Share Registry.</b>

### **About Golden Cross Resources Ltd**

*Golden Cross Resources (ASX:GCR) is a mineral explorer with a copper-gold focus. GCR has many high quality projects across Australia as well as prospective joint ventures funded and managed by GCR's partners. GCR holds \$1.75 million in cash and \$750,000 in negotiable securities.*



**GCR's Australian Project Locations**