

# GOLDEN CROSS RESOURCES N.L.

ACN 063 075 178

## QUARTERLY REPORT TO 31 MARCH 1997

22 April 1997

### HIGHLIGHTS

Golden Cross Resources completed 9,000m of drilling during the March quarter. Results are included for 5,000m of this drilling and assays are awaited for the balance of 4,000m. A further 14,000m of drilling is presently underway on the Company's priority projects, for completion in the June quarter.

In February the Company announced the acquisition of a 31.33% interest in a Joint Venture with Newcrest Mining Limited over a gold-copper porphyry project at Copper Hill, NSW. Previous drilling at Copper Hill confirmed continuity of mineralisation over 500m along strike and 250m in depth and included one intersection of 217m at 1.67 g/t gold and 0.72 % copper from 32m. The mineralisation at Copper Hill is recognised as being of the gold-copper porphyry style similar to that at Northparkes, Cadia and Cargo. The project lies within the same Ordovician volcanic belt which hosts Browns Creek, Cadia (including Ridgeway) and Cargo.

Golden Cross Resources now has an interest in three projects, West Wyalong, Cargo and Copper Hill, which have significant potential to host gold-copper porphyry deposits similar to those listed above.

Highlights were:

- Acquisition of a 31.33% interest in the *Copper Hill* Joint Venture with Newcrest Mining.
- Partial resource estimate at *Cargo* of 3.3 Mt at 1.17 g/t, at a 0.5 g/t cutoff, for 124,000 oz of gold.
- Preliminary drilling of the Essex zone at *Cargo* produced results up to 6m at 9.53 g/t gold from 30m.
- At *Pipeline Ridge* drilling of supergene zone intersected 10m at 6.96 g/t from 20m.
- At *Broken Hill* rock chip sampling returned two 4 metre samples containing greater than 16 g/t gold.

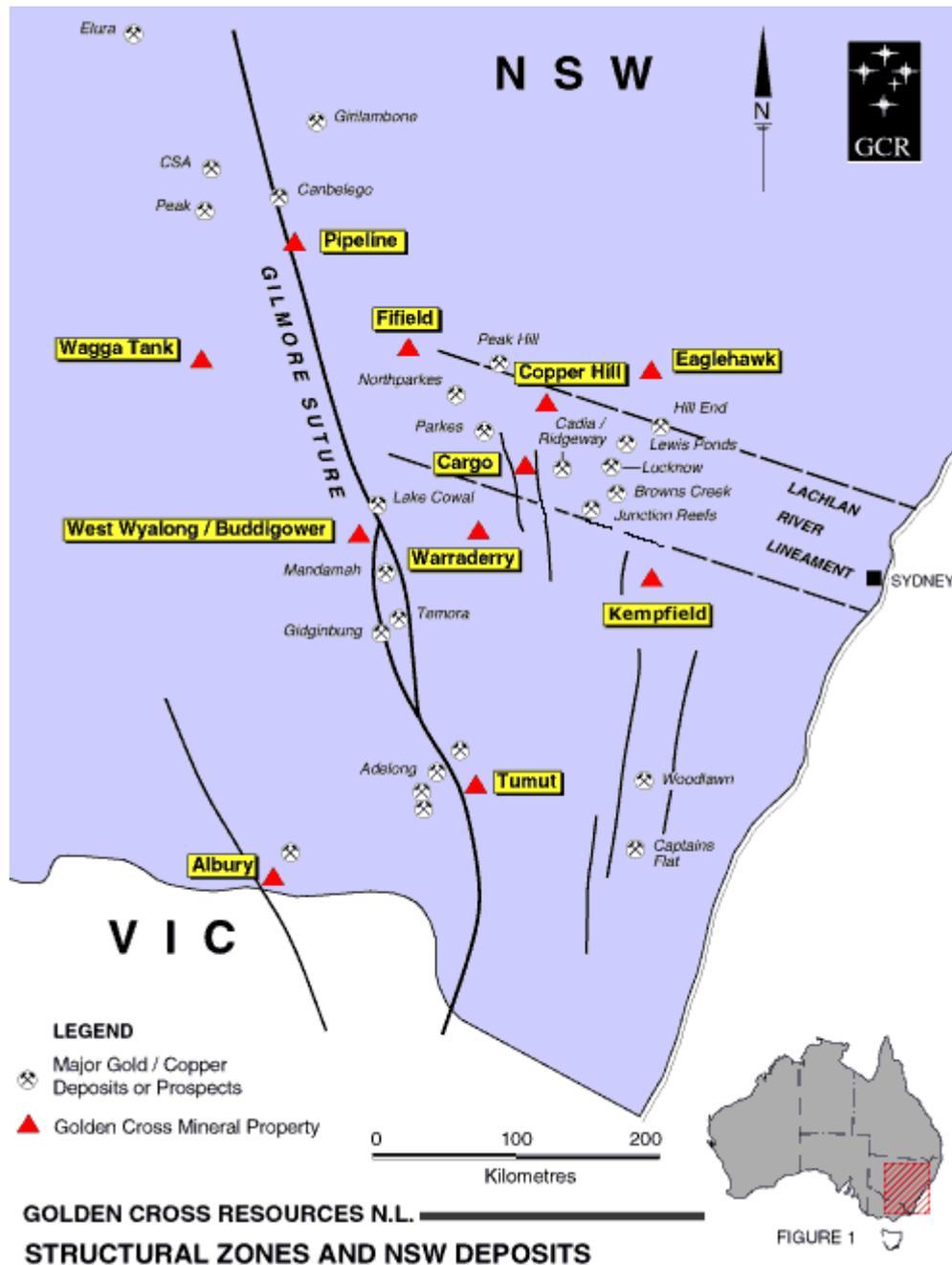
### SUMMARY

At *West Wyalong, NSW* a programme of soil sampling was completed with encouraging results delineating a broad zone of coincident gold and copper anomalism. A 4,000m regional air core drill programme is underway to test for gold-copper porphyry mineralisation in the vicinity of Pine Ridge and Pine Hill (Figure 2). The programme, consisting of 80 holes, is due for completion in May. A 400 hole air core drill programme to test tailings at *Apex Yard* adjacent to the Mallee Bull line of lode produced an indicated resource of 243,000 tonnes at an average grade of 1.0 g/t for approximately 7,800 ounces of contained gold.

At *Cargo, NSW* a preliminary resource estimate has been completed for the Spur/Dalcoath zones (see below for details). Compilation of previous geochemical data and preliminary geological mapping indicates concentric zones with a copper-molybdenum-gold enriched centre surrounded by a halo hosting gold mineralisation (Figure 5). Historic workings, quartz veins and dykes, including those at Spur/Dalcoath, all lie within the halo and radiate out from the centre (Figure 5). A zone anomalous in lead and zinc occurs on the periphery of the halo. This zonation pattern is typical of mineralised porphyry systems around the world. Preliminary drilling of the Essex zone produced encouraging results including 6m at 9.53 g/t gold, 4m at 9.00 g/t gold and 2m at 18.54 g/t gold from the first five drillholes. An additional 4 km of the halo remains to be tested.

The Company acquired a 31.33% interest in the *Copper Hill* Joint Venture with Newcrest Mining, a porphyry gold-copper project near Molong, NSW. The mineralisation at Copper Hill is now recognised as being similar to that at Northparkes, Cadia and Cargo. Anomalous gold-copper geochemical values extend in a northwesterly direction over a zone measuring approximately 0.6 km x 3.5 km (Figure 7).

Robyn Hee joined the Company as a Senior Geologist in April. Robyn has 12 years experience in Australia and overseas in gold-copper porphyry, epithermal and gold-copper ironstone replacement deposits. Her strengths lie in regional reconnaissance work and computerised information systems specifically designed for minerals exploration. Before joining the Company Robyn was employed as a Senior Geologist with RTZ-CRA.



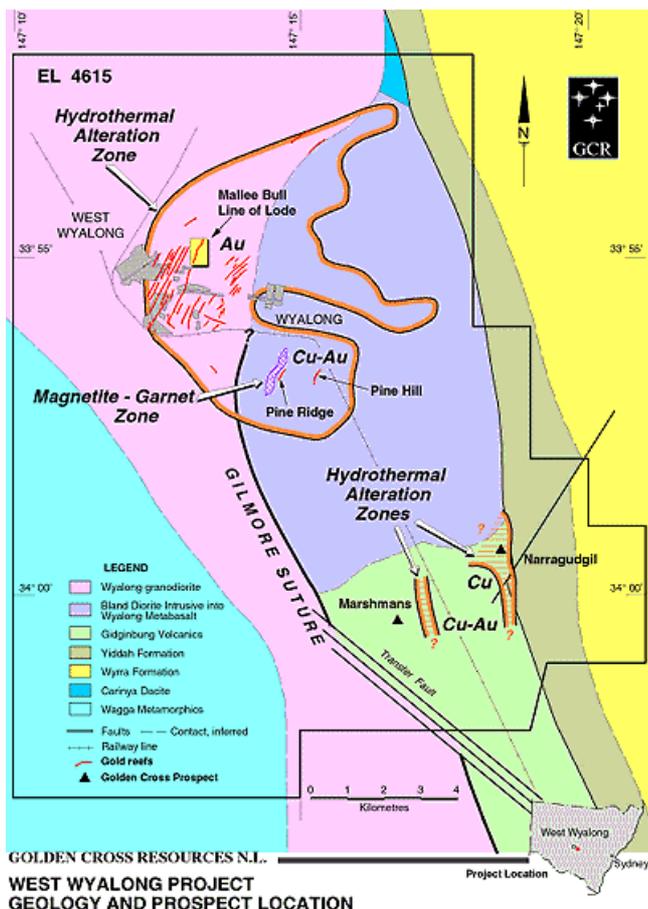
**EXPLORATION RESULTS**

- 1. West Wyalong** (NSW, 290 km<sup>2</sup>, GCR earning 90%, subject to 2.5% net smelter return, gold and copper)  
 (West Wyalong North - 120 km<sup>2</sup>, GCR 100%, gold) (Buddigower prospect - 3 km<sup>2</sup>, GCR 100%, gold)

South of the *Pine Ridge* prospect (Figure 2) a programme of 6.5 line km of soil sampling, at 25m sample spacings, was completed. Results are encouraging and delineate a broad zone of coincident gold and copper anomalism in the west of the survey area which adjoins anomalies located by previous surveys to the north (Figure 3). The highest value exceeds 700ppb gold beyond the southern limit of the old workings (Figure 3). Vein quartz grab sampling at Pine Ridge produced assays up to 12.4 g/t gold.

A 4,000m regional air core drill programme is underway to test for gold-copper porphyry mineralisation in the vicinity of Pine Ridge and Pine Hill. The programme, consisting of 80 holes, is due for completion in May.

A 400 hole air core drill programme to test tailings adjacent to the Mallee Bull line of lode was completed. The area, known as *Apex Yard*, contains partially reprocessed tailings from the Neelds, Brilliant and other mines.



Holes were drilled to an average depth of 5m on a 10m by 10m grid. Samples from half of the holes were assayed and produced an indicated resource of 243,000 tonnes at an average grade of 1.0 g/t for approximately 7,800 ounces of contained gold. Metallurgical investigations are yet to commence.

At *Marshmans* prospect (Figure 2) nine open hole mud/percussion holes were drilled, for a total of 736m. Weak gold and copper anomalism was detected in bedrock.

EL 5209 (*West Wyalong North*), consisting of 120 km<sup>2</sup>, was granted during the quarter. It is believed to take up the extension of the Gilmore Suture to the north east of Wyalong and contains prospective geology. A detailed airborne magnetic survey has been completed.

At *Buddigower* prospect geological mapping was completed and a number of rock chip samples produced results over 1 g/t gold with the best sample returning 4.9 g/t gold (Figure 4). The Company is encouraged by the association of gold with previously mined quartz-tin veins in shear zones.

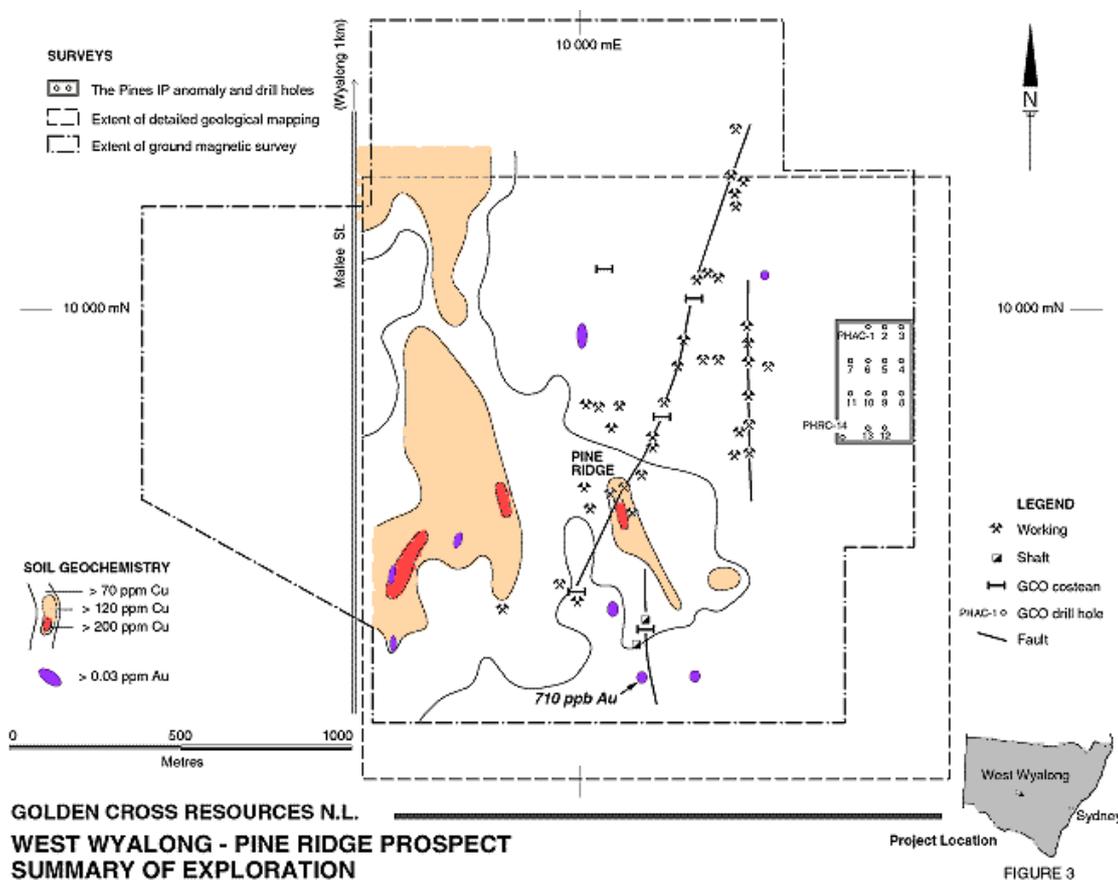
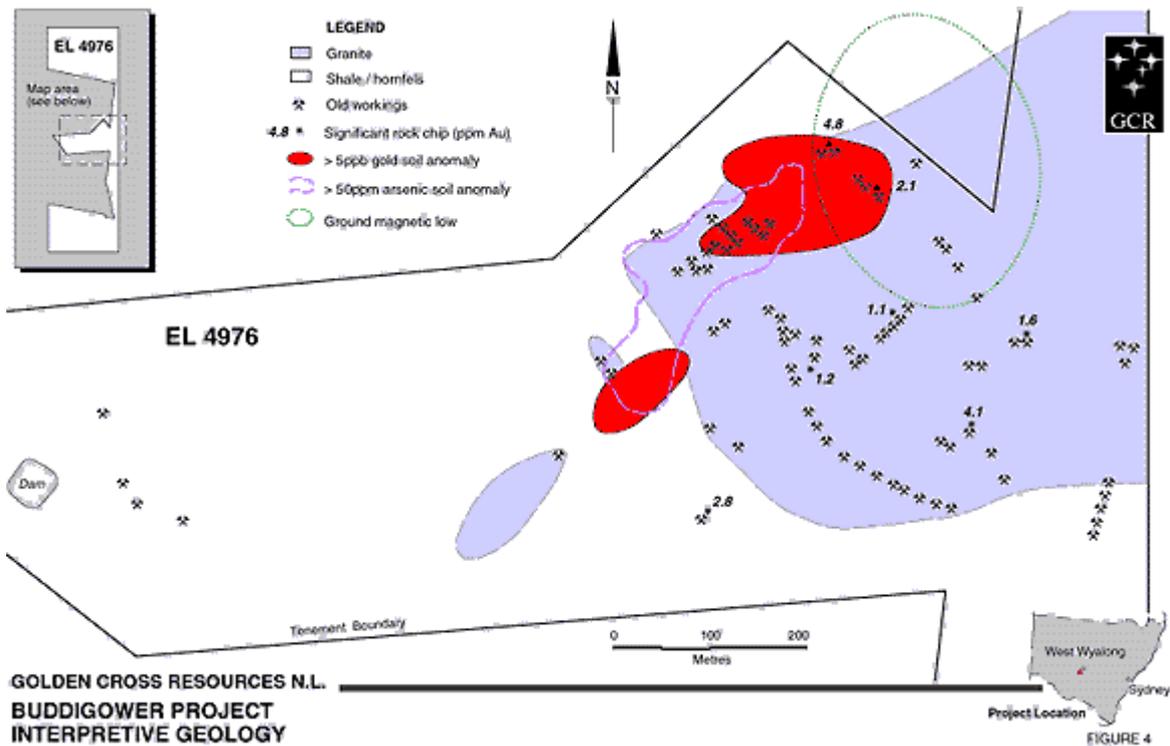


FIGURE 3



**2. Cargo** (NSW, 360 km<sup>2</sup>, GCR (operator) 50%, Imperial Mining NL 50%, gold and copper)

At Cargo the first two zones, Spur and Dalcoath, of the fourteen known gold zones have been partly tested by drilling and a preliminary resource estimate made. Initial encouraging drill results have been received for a third zone, Essex, and drilling is underway at the Ironclad zone (Figure 5). A further ten known gold zones extending over 4 km remain to be drill tested.

*Resource Estimate at Spur/Dalcoath Zone*

Near surface drilling at Spur/Dalcoath is partly completed, with mineralisation open to the east, west and at depth. A preliminary resource estimate, derived only from the portions drilled to date, produced an indicated resource of 3.3 million tonnes (Mt) at a grade of 1.17 g/t gold, using a 0.5 g/t cutoff, for approximately 124,000 ounces of contained gold. There is potential for a significant increase in the resource estimate and a geostatistical evaluation is currently being undertaken. The geological and geostatistical models reveal that there are significant gaps which require infill drilling before a further resource estimate can be completed.

Initial metallurgical investigations have yielded encouraging results and are ongoing.

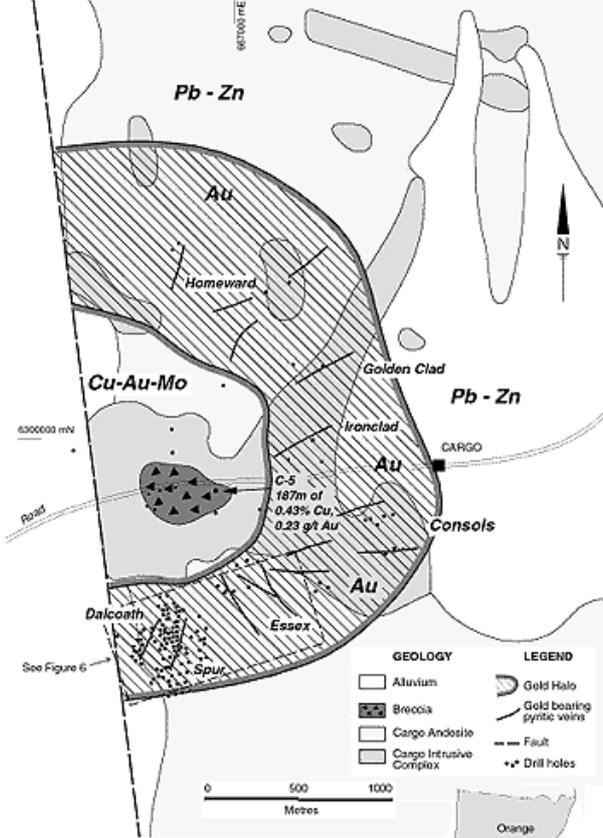
*Alteration and Geochemical Zonation*

Compilation of previous geochemical data and preliminary alteration mapping indicates a concentric zonation pattern at Cargo (Figure 5). A copper-molybdenum-gold rich zone centred on a late, highly fractured and potassically altered intrusive breccia is surrounded by a concentric halo hosting gold mineralisation in strong sericite-quartz-pyrite alteration.

The gold mineralisation in the previously drilled Spur/Dalcoath zone is hosted within the concentric halo and is delineated by the 0.1 g/t gold-in-soil contour shown in Figure 6. Historic workings, quartz veins and dykes all lie within the halo and form a radial pattern with respect to the centre of the intrusive complex (Figure 5). Propylitic alteration assemblages, enriched in lead and zinc, occur peripheral to the halo.

This geochemical zonation pattern is typical of mineralised porphyry systems around the world and gives encouragement to the Joint Venture partners to focus on the big picture through regional exploration at Cargo.

**Cargo (Continued)**



**GOLDEN CROSS RESOURCES N.L.  
CARGO PROJECT  
GEOLOGY AND GEOCHEMICAL ZONATION**

FIGURE 5

km of the halo, which surrounds the porphyry system, remains to be tested (Figure 5). The present drill programme, consisting of 4,000m of reverse circulation (RC) drilling, will test four of the 14 known gold zones together with geochemical and geophysical anomalies (Figure 5). Drilling has commenced at the Essex zone, with 400m drilled to date. The location of the drillholes is shown in Figure 6 and preliminary results are set out below:

**Essex Zone - Significant Drill Results**

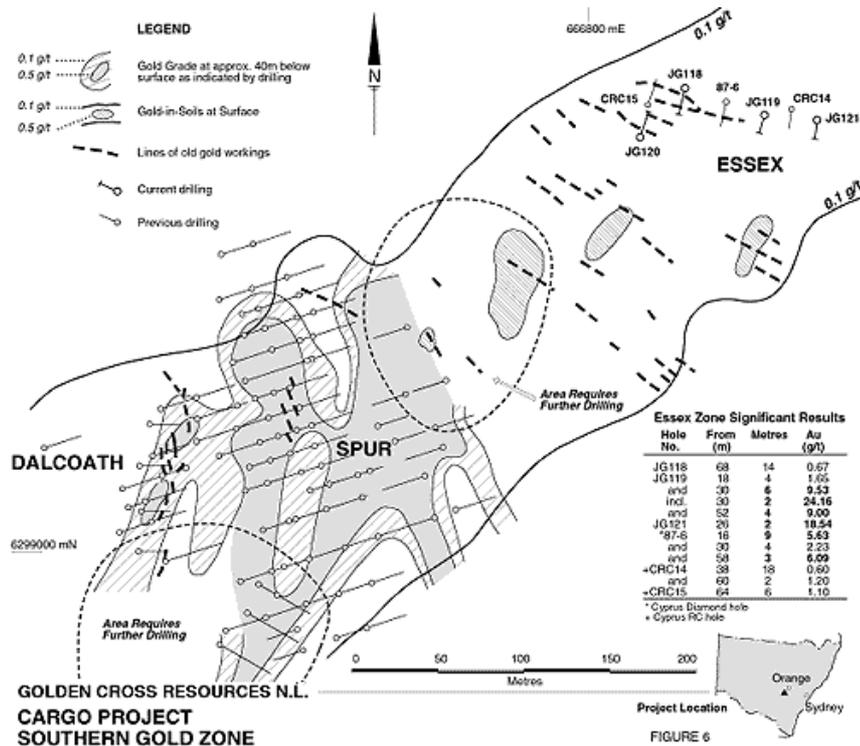
Drill Hole No.	East (m)	North (m)	From (m)	Intercept (m)	Gold (g/t)
JG118	667048	6299352	68	14	0.67
JG119	667103	6299338	18	4	1.65
and			30	6	9.53
incl.			30	2	24.16
and			52	4	9.00
JG121	667142	6299325	26	2	18.54
*87-6	667071	6299354	16	9	5.63
and			30	4	2.23
and			58	3	6.19
+CRC14	667126	6299347	38	18	0.6
and			60	2	1.2
+CRC15	667016	6299327	64	6	1.1

Note: \* Cyprus Gold Australia Corporation diamond drillhole

+ Cyprus Gold Australia Corporation RC drillhole

*Regional Exploration*

Regional alteration and geological mapping is being conducted in conjunction with drilling. An additional 4



**GOLDEN CROSS RESOURCES N.L.  
CARGO PROJECT  
SOUTHERN GOLD ZONE**

FIGURE 6

*New Licence*

EL 5211 (Cargo West) was granted to the Joint Venture partners during the quarter. Cargo West lies in the prospective Lachlan River Lineament (Figure 1), adjoins EL 5238 (Cargo) to the west and is 300 km<sup>2</sup> in area. It contains a number of old prospects and is partially underlain by Ordovician volcanics. The Joint Venture partners also obtained an option over GL 5828 (Ironclad Gold Lease) during the quarter. The Ironclad vein (Figure 5) was mined to 160m below surface at an average reported grade of over 20 g/t gold. Drilling is underway at Ironclad.

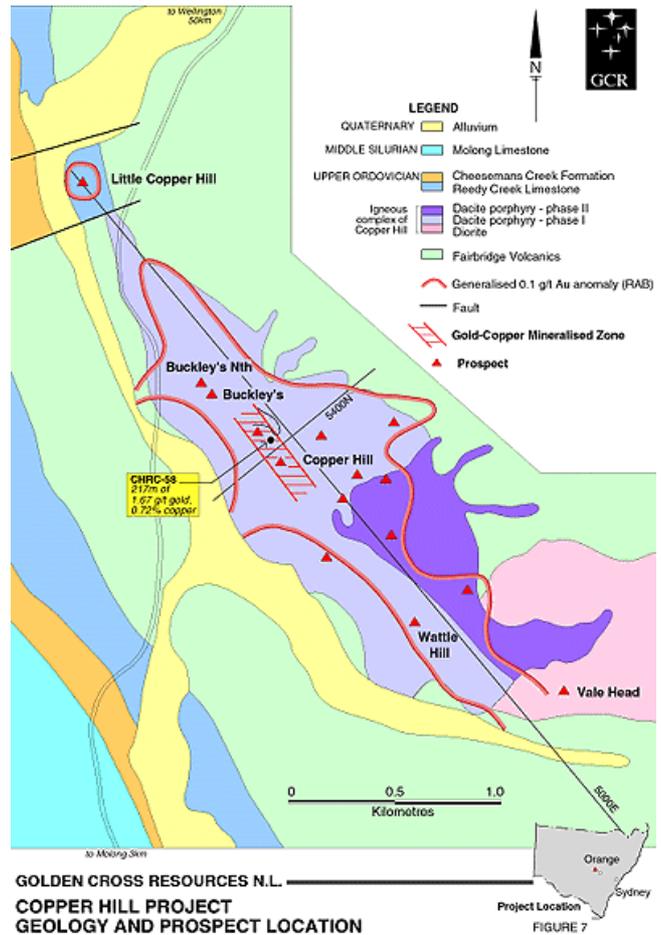
**3. Copper Hill** (at Molong, NSW, 25 km<sup>2</sup>, GCR 31.33%, Newcrest Mining Ltd (operator) 68.67%, gold and copper)

In February the Company announced it had acquired a 31.33% interest in a Joint Venture with Newcrest Mining Limited over a gold-copper porphyry project at Copper Hill. The project contains a number of prospects and old workings (Figure 7), including NSW's first copper mine.

The mineralisation at Copper Hill is now recognised as being of the gold-copper porphyry style similar to that at Northparkes, Cadia and Cargo. The project lies within the same Ordovician volcanic belt which hosts Browns Creek, Cadia (including Ridgeway) and Cargo.

The mineralisation is hosted within an Ordovician dacite porphyry complex which has intruded Ordovician andesites (Figure 7). Anomalous copper-gold geochemical values extend in a northwesterly direction over a zone measuring approximately 0.6 km x 3.5 km.

Previous drilling at the Copper Hill prospect confirmed continuity of mineralisation in excess of 500m along strike and 250m in depth and included one hole, CHRC-58, which intersected 217m at 1.67 g/t gold and 0.72 % copper from 32m (Figure 7). A summary of significant intersections over 50 gram-metres gold equivalent (assuming 1 g/t gold = 1% copper) are listed below. Note that many of the intersections start from surface.



**Copper Hill Project - Summary of Significant Drill Intersections**

Hole No.	East (m)	North (m)	From (m)	Intersection (m)	Gold (g/t)	Copper (%)	Gram-metres Gold Equiv*
CHP-6	4825	5628	16	79	0.60	0.45	82.9
CHP-7	5405	5160	Surface	50	0.91	0.56	73.5
CHP-9	5060	5030	Surface	26	2.27	0.62	75.1
and			40	10	1.02	0.61	16.3
CHRC-1	4922	5585.5	Surface	74	1.91	0.78	199.1
CHRC-4	4848	4875	Surface	50	0.90	0.53	71.5
CHRC-6	5044.5	5015.5	Surface	46	1.88	0.51	109.9
CHRC-10	5434	5162	2	66	0.53	0.41	62.0
CHRC-11	5452	5187.5	Surface	46	1.15	0.85	92.0
CHRC-13	4847	5643	Surface	80	1.04	0.40	115.2
CHRC-14	4912	5525	8	67	1.43	0.83	151.4
CHRC-22	5465	5155	Surface	108	0.79	0.40	128.5
CHRC-32	4939	5558	Surface	62	1.49	0.69	135.2
CHRC-36	4851	5575	28	104	0.81	0.49	135.2
CHRC-37	4881	5552	16	108	0.51	0.37	95.0
CHRC-41	5065	5049.5	30	20	2.26	0.86	62.4
CHRC-58	4906	5455	32	217	1.67	0.72	518.6
CH-89-1	4934	5584	1	79	1.91	0.72	207.8
CH-89-3	4878	5619	26	44	0.89	0.47	59.8
CHM-26	4950	5050	38	60	0.88	0.60	88.8

Note: \* Gram-metres gold equivalent = (g/t gold x metres) + (gold equivalent of copper x metres)

Previous explorers, who have drilled reverse circulation or diamond holes, include Anaconda in 1967 (7 holes), Amax in 1972 (4 holes), Le Nickel in 1975 (3 holes), Homestake in 1985 (16 holes), Cyprus Gold Australia in 1987 (67 holes), MIM in 1992 (30 holes) and Newcrest since 1995 (19 holes). Past exploration expenditure at Copper Hill exceeds \$5 million.

The initial objective of the Copper Hill Joint Venture programme is to define a measured gold-copper resource. The exploration programme to 30 June 1997 consists of compilation and evaluation of exploration results to date. It is anticipated that the programme for the six months to 31 December 1997 will include at least one deep diamond drill hole to test for Cadia (including Ridgeway)-style high grade gold-copper porphyry mineralisation in the vicinity of hole CHRC-58.

**4. Pipeline Ridge/Sarona Downs** (near Cobar, NSW, 120 km<sup>2</sup>, GCR 100%, gold and base metals)

1,000m out of a 1,500m reverse circulation drill programme has been completed and drilling is ongoing. The programme is designed to test for supergene gold in the vicinity of drillhole G69 which intersected **10m at 8.1 g/t gold** from 23 m below surface. Assays have been received for the first 500m and best results follow:

**Pipeline Ridge - Significant Drill Results**

Drill Hole No.	East (m)	North (m)	From (m)	Intercept (m)	Gold (g/t)
G77	406180	983470	30	6	1.14
G78	406140	983470	10	28	0.93
G79	406160	983470	36	4	1.76
G80	406170	983470	<b>20</b>	<b>10</b>	<b>6.96</b>
incl.			<b>20</b>	<b>2</b>	<b>31.50</b>
G84	406190	983450	10	2	1.34
and			36	2	5.10

**5. Glengarry Basin** (near Meekatharra, WA, 160 km<sup>2</sup>, GCR (operator) 77.2%, Grange Resources NL 22.8%, gold)

4,500m was completed out of a 10,500m programme of rotary air blast (RAB) drilling to test the 6.5 km gold-anomalous contact zone between the Narracoota volcanics and the sediments. The 4,500m, consisting of 115 holes, was completed at *Heines Find* prospect. The drilling follows up on structures identified by aeromagnetism and anomalous results from previous drilling. Assays have been received for 20 of the 115 holes, with best results set out below.

**Heines Find - Significant Drill Results**

Drill Hole No.	East (m)	North (m)	From (m)	Intercept (m)	Gold (g/t)
GR225	684240	7144960	24	12	0.29
GR226	684240	7144980	12	4	0.60
and			28	4	1.53
and			32	12	0.52

At *Dead Horse Well* prospect assay results from RAB drilling returned 4m composite values of 0.1 g/t gold or greater in three holes, on lines 200m apart, within a buried laterite profile.

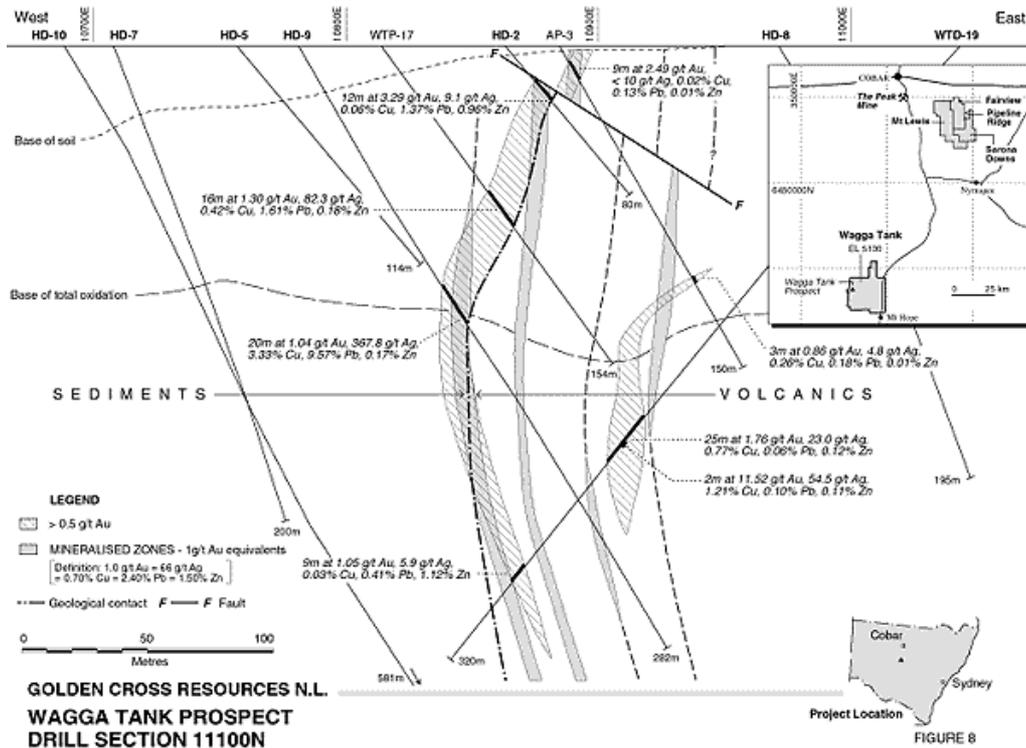
At *Telegraph* prospect a programme of infill soil sampling was carried out at three areas, with a total of 342 samples taken. Results have been received for 151 samples, with a peak value of 30 parts per billion (ppb) gold.

**6. Wagga Tank** (near Cobar, NSW, 470 km<sup>2</sup>, GCR 100%, gold and base metals)

The Wagga Tank massive sulphide prospect contains a number of significant intercepts of gold-bearing material in the oxide and supergene zones (Figure 8). Golden Cross has calculated an inferred gold resource in these zones

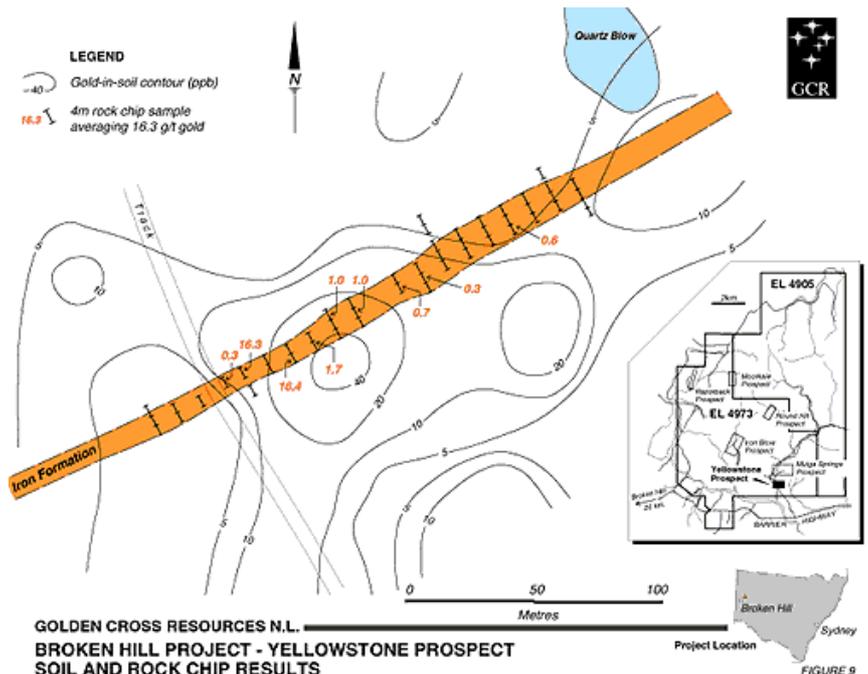
of 591,000 tonnes at 1.56 g/t at a 0.5 g/t cutoff for a total of approximately 30,000 ounces of gold. Homestake, a previous explorer, calculated an indicated resource of 1.25 Mt of 0.66 g/t gold, 0.81% copper, 1.76% lead, 3.29% zinc and 69 g/t silver for the sulphide, supergene and oxide zones.

A database is being compiled from a large amount of geological, geochemical and geophysical data acquired from previous explorers, including Cyprus, Homestake, RGC, CRA and Normandy. Integrated data will be used to select targets for drilling.



**7. Broken Hill** (NSW, 116 km<sup>2</sup>, GCR 100%, gold, platinum group metals and base metals)

At *Yellowstone* prospect a programme of rock chip sampling has returned **two 4 metre samples** containing greater than **16 g/t gold** (Figure 9). The results are coincident with a 150m long gold-in-soil anomaly (Figure 9) and provide encouragement for a gold resource at *Yellowstone*. Previous rock chip sampling by North Broken Hill and CRA in this area produced results up to 3.1 g/t and 2.0 g/t gold. Two diamond drillholes at *Yellowstone* dating back to the 1960s yielded results up to 2.4m at 0.6% copper.



**8. Kempfield/Trunkey Creek** (near Blayney, NSW, 50 km<sup>2</sup>, Kempfield - GCR Earning 51% from Metallic Resources Pty Ltd, gold and base metals, Trunkey Creek - GCR 100%, gold)

Review of historical data for Kempfield is ongoing.

**9. Eaglehawk** (near Mudgee, NSW, 4 km<sup>2</sup>, GCR 100%, gold)

Aerial photography was conducted during the quarter together with detailed photogrammetric mapping, to be followed up by geological mapping.

The Company did not exercise its option to purchase GL 5893 at Eaglehawk. The Company retains no interest in this Gold Lease which is excised from the Company's exploration licence.

**10. Warraderry** (near Grenfell, NSW, 55 km<sup>2</sup>, GCR 100%, gold)

EL 5210 (Warraderry Extension), 50 km<sup>2</sup> in area, was granted during the quarter, extending the Warraderry project to the south. The extension covers prospective ground indicated by recent exploration. Historical data is under review.

**11. Maynard Hills** (near Sandstone, WA, 200 km<sup>2</sup>, GCR earning 70% from Barranco Resources NL, gold)

A programme of infill soil sampling returned weakly anomalous results. Ninety nine rock chip samples were taken, with a best result of 0.82 g/t gold from silicified banded iron formation.

**12. Fairview/Mt Lewis** (near Cobar, NSW, 360 km<sup>2</sup>, Mt Lewis - GCR 100%, gold, Fairview - GCR 90% with Metallic Resources holding a 10% free carried interest to construction, gold)

EL 5215 (Fairview), 120 km<sup>2</sup> in area, was granted during the quarter (Figure 1). The Fairview/Mt Lewis project adjoins the Pipeline Ridge/Sarona Downs project to the west. An aeromagnetic survey has been completed.

**13. Jingellic** (near Holbrook, NSW, 380 km<sup>2</sup>, GCR 100%, gold)

EL 5197 (Jingellic) was granted during the quarter (Figure 1). The licence covers a major fault associated with 36 old mines or workings, including 14 gold mines. One of the gold mines reported grades of 45 g/t gold with workings extending for 3.5 km over a shear/fault zone.

**14. Tumut** (NSW, 230 km<sup>2</sup>, GCR 100%, gold)

EL 5198 (Tumut) was granted during the quarter (Figure 1). The licence is largely situated on a regional shear zone and contains 17 old mines or workings, including eight gold mines.

**15. Albury** (NSW, 170 km<sup>2</sup>, GCR 100%, gold)

This tenement covers several old gold mines and compilation of historical data is ongoing.

**16. Fifield** (near Parkes, NSW, 80 km<sup>2</sup>, GCR 100%, gold)

EL 5232 at Fifield was granted during the quarter. The project has potential for porphyry copper-gold style mineralisation including skarns and gold and base metal veins and stockworks in Ordovician metasediments.

**17. Cells Creek** (near Wauchope, NSW, gold)

GCR relinquished its 51% interest in this project during the quarter and retains no interest in the project.

DAVID TIMMS, MANAGING DIRECTOR

*This report was prepared by David Timms, Managing Director and full time employee of Golden Cross Resources NL, who is a Fellow of the AusIMM and has more than five years experience in the field of activity in which he is reporting.*

## **GCR AT A GLANCE**

### **Directors**

Lindsay MacAlister *Chairman*  
David Timms *Managing Director*  
John Hill *Director*  
Daven Timms *Executive Director &  
Company Secretary*

### **Registered and Principal Office**

22 Edgeworth David Avenue  
Hornsby NSW 2077  
Australia  
Ph: (02) 9482 8833  
Fax: (02) 9482 8488

### **Shareholders**

At 31 March 1997 GCR had 1,035 shareholders.

### **Major Shareholders**

The share register records the following as major shareholders (more than 1%) at 31 March 1997:

1. David Timms	30.93%
2. Metallic Resources Pty Ltd	10.09%
3. National Nominees Limited	2.08%
4. New Zealand Petroleum Company	2.05%
5. ANZ Nominees Limited	1.50%
6. Perrodon Nominees Pty Ltd	1.18%

### **Shareholder Enquiries**

Matters relating to shares held and change of address should be directed to the share registry:

Registries Limited  
Level 1, 220 George Street  
Sydney NSW 2000  
Ph: (02) 9247 8252

### **Issued Capital**

At 31 March 1997 the issued capital was 38,668,136 shares of 25 cents par value, 9 million options exercisable at 40 cents by 31.10.98, 5,159,058 options exercisable at 40 cents by 30.9.98 and 800,000 employee options exercisable at 30 cents by 20.9.2001.

### **Shares Issued during the March Quarter**

3.85 million shares of 25 cents par value were issued during the March quarter. 3.8 million of these shares were issued to Metallic Resources Pty Ltd in consideration for its interest in the Cargo and Copper Hill projects.

### **ASX Listing Code**

The Company's ASX listing code is GCR.

### **Cash**

As at 31 March GCR held cash reserves of \$2.5M.

### **Exploration Expenditure**

March Quarter gross	\$818,000
Less exploration expenditure recovered	<u>-\$104,000</u>
March quarter net	<u>\$714,000</u>
June Quarter net, estimate	\$800,000

### **Reporting Calendar**

June quarterly released 22 July 1997

### **General Enquiries**

For further information please contact Daven Timms or David Timms at the principal office:  
ph. (02) 9482 8833.