



**MARENGO**  
MINING LIMITED

3 October 2006

**ASX RELEASE**

## **INITIAL 371 MILLION TONNE RESOURCE FOR YANDERA COPPER-MOLYBDENUM PROJECT (PNG)**

Marengo Mining Limited (ASX Code: MGO) is pleased to announce a preliminary mineral resource statement for the central portion of its 100% owned Yandera Copper – Molybdenum Project, located in Madang Province, in Papua New Guinea (see Figure 3).

**Inferred Resource of 127 Million Tonnes @ 0.7% Copper Equivalent (at 0.5% Copper Equivalent cut-off), which equates to 1.96 billion pounds of contained copper metal equivalent, or an**

**Inferred Resource of 371 Million Tonnes @ 0.49% Copper Equivalent (at 0.3% Copper Equivalent cut-off), which equates to 4.01 billion pounds of contained copper metal equivalent.**

A similar tonnage of mineral inventory has been established for each cut-off. However this cannot be placed in a resource classification at this stage. It is Marengo's intention to focus its efforts on establishing sufficient information, to enable for the conversion of as much of this mineral inventory into a resource category as possible, in subsequent resource estimations.

This preliminary resource statement has been prepared by respected international mining consultancy group, Golder Associates Pty Ltd, which has extensive experience in all facets of the mining and resources industry. It is based on 98 diamond drill holes completed during the 1970's by BHP Limited and others, and the first 7 diamond drill holes completed by Marengo as part of its current resource drilling program. The full text of the Golder Associates preliminary resource statement is attached as Appendix 1.

Following the excellent results of the initial resource estimate, Marengo also today announces the commencement of a pre-feasibility study on the Yandera Project, as well as further results from its ongoing program of resource drilling, which have not been included in the current resource estimate.

This initial resource estimate confirms the potential of the Yandera Project to underpin a world-class mining development, which would add significant value both to Marengo shareholders and the nation of Papua New Guinea.



World demand for copper and molybdenum continues unabated with copper metal trading at A\$4.67 per pound (US\$3.50 per pound) and molybdenum metal at A\$53 per pound (US\$40 per pound) on 29 September 2006.

For guidance only, current published mining reserves for Teck Cominco Ltd's Highland Valley Cu-Mo mine in Canada (British Columbia) were 318 million tonnes at 0.43% copper and 80 ppm (0.008%) molybdenum. At a 10:1 molybdenum:copper price ratio this represents a copper equivalent grade of 0.51%.

### NEW DRILL RESULT

Marengo has received further excellent results from its current diamond drilling program at the Yandera Project, with drilling continuing to intersect broad zones of copper-molybdenum mineralisation and confirming the extensive nature of the Yandera mineralised system.

The results of drill hole YD 111 have now been received and include another substantial intersection of:

#### **240 metres at 0.89% Copper Equivalent (from 12 to 252 metres)**

The intercept also contained individual 3 metre composite assays of up to 1.15 g/t gold and 14.7 g/t silver, however these metals have not been included in the copper equivalent calculation for this intercept.

**This drill hole has not been included in the current resource estimate.**

Other drill holes which have returned significant mineralisation include:

#### **Yandera Drill Intercepts**

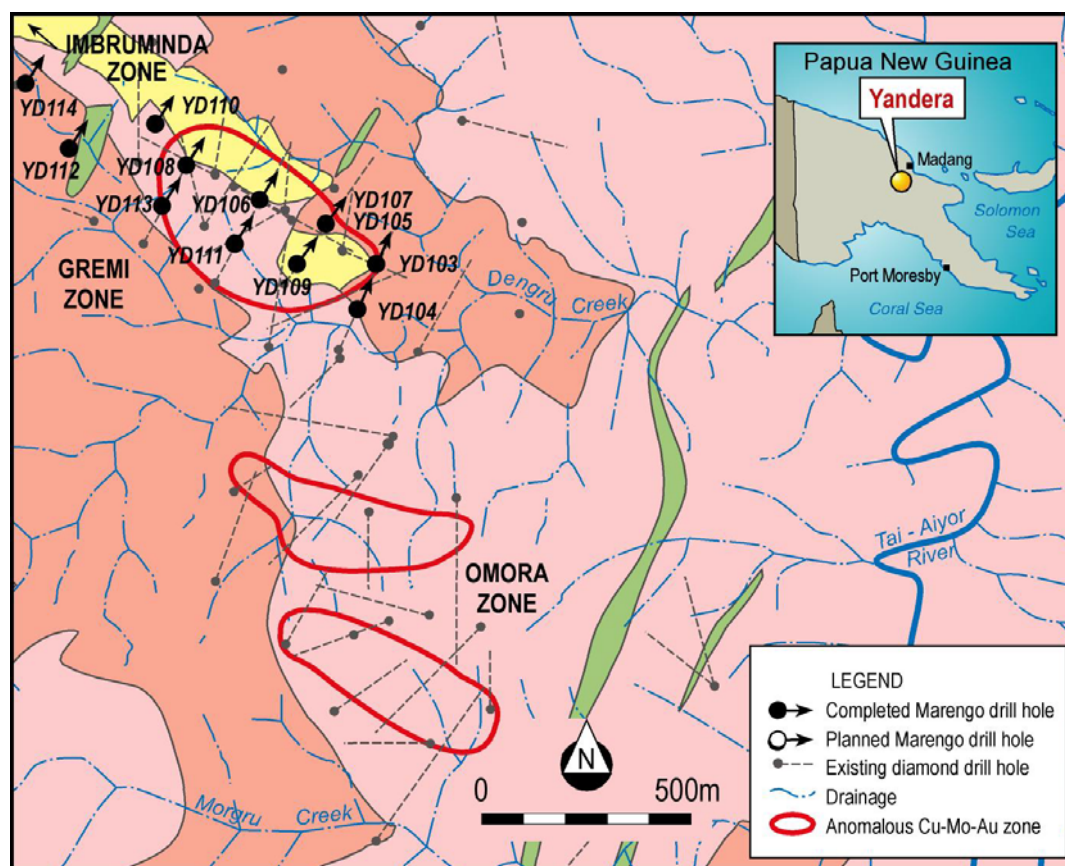
Hole ID	Zone	From (m)	To (m)	Interval (m)	Cu %	Mo (ppm)	Copper Equivalent %
YD 104	Gremi	9	72	<b>63</b>	0.48	230	<b>0.71</b>
		108	174	<b>66</b>	0.38	282	<b>0.66</b>
		186	249	<b>63</b>	0.27	900	<b>1.17</b>
YD 105	Gremi	30	84	<b>54</b>	0.38	243	<b>0.62</b>
		96	150	<b>54</b>	0.40	336	<b>0.74</b>
		192	214	<b>22</b>	0.42	278	<b>0.70</b>
YD 106	Gremi	0	180	<b>180</b>	0.50	238	<b>0.74</b>
YD 107	Gremi	9	246*	<b>237</b>	0.83	531	<b>1.36</b>
Including		39	120	<b>81</b>	1.35	1037	<b>2.39</b>
		153	186	<b>33</b>	1.24	684	<b>1.92</b>
YD 109	Gremi	0	352*	<b>352</b>	0.47	160	<b>0.63</b>
Including		24	228	<b>204</b>	0.63	212	<b>0.84</b>
YD 111	Gremi	12	252	<b>240</b>	0.67	217	<b>0.89</b>

Note (1) Copper equivalent is based on a molybdenum/copper price ratio of 10:1.

Note (2) Interval boundaries based on a 0.2% Cu cut-off.

\* Denotes end of hole.

FIGURE 1



A total of 13 holes have now been completed by Marengo to date, with approximately a further 8 holes remaining to be drilled or currently in progress.

When the current drill program is completed, this information, together with additional historical data, will be included in a subsequent resource estimation, scheduled for completion during the first quarter of 2007.

#### PRE-FEASIBILITY STUDY COMMENCED

Marengo has appointed Mr David Swain of Swain Associates to manage a pre-feasibility study on the Yandera Project. The study will include preliminary mine design and open pit optimisation, metallurgical testwork, plant flowsheet design and throughput options with capital and operating cost estimates. A number of these activities have commenced.

Mr Swain is a mining engineer, with extensive experience in this role, having been involved in projects in Africa (Zambian Copper Belt), Western Australia (Goldsworthy) and Tasmania. He has also provided consultancy services to major international project financiers and been involved in preparation, and evaluation of feasibility studies for numerous mining projects worldwide.

In addition, he was employed by Bougainville Copper Limited from 1973 to 1980, during which time he held the positions of Pit Superintendent and Chief Mining Engineer at the Panguna Copper Mine.

## NEXT PHASE OF DRILLING

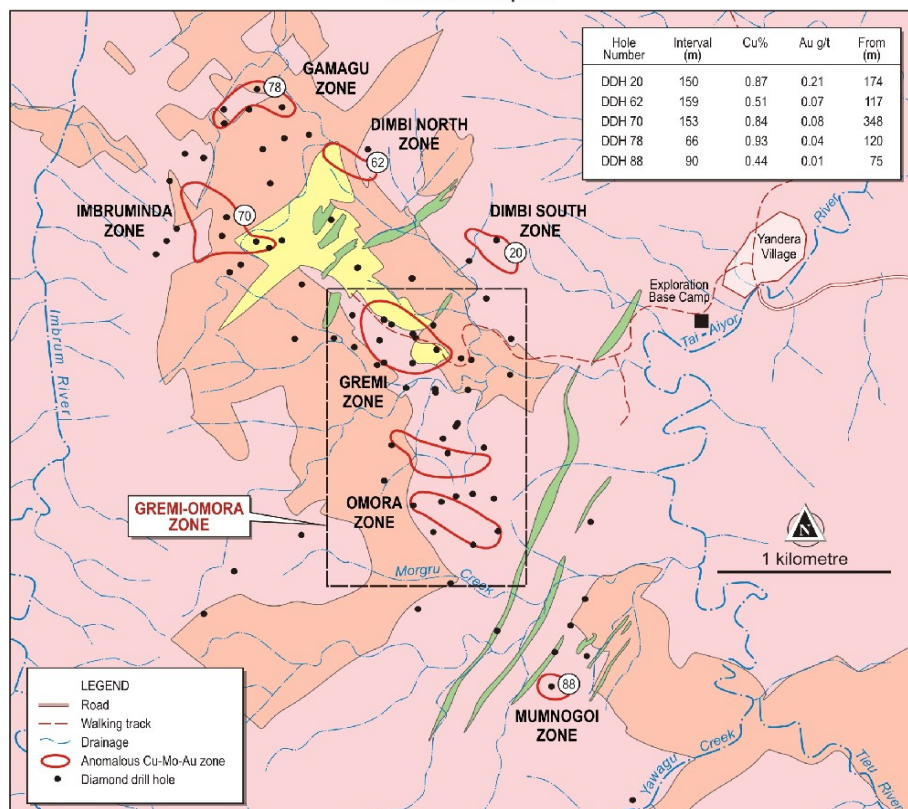
In addition to the current phase of drilling at Yandera and the Pre-Feasibility Study, Marengo will continue to evaluate the extensive Yandera exploration database. This comprehensive database was produced by BHP, Kennecott Copper and others during the 1960's and 1970's at an estimated historical cost of over US\$20 million, and acquired by Marengo shortly after entering the Yandera Project in early 2005.

During the next field season (commencing in February/March 2007) Marengo intends to continue diamond drilling with the following aims:

- ongoing drilling at the Gremi, Omora and Imbruminda zones to specifically target higher grade zones within the current resource envelope (refer Figure 2). Such near-surface zones have the potential to maximise cashflow in the early stages of mining operations;
- drilling of deeper targets at Gremi, Omora and Imbruminda which have the potential to add very significant tonnages to the rapidly growing resource; and
- selected drilling of other mineralised zones, along the extensive Yandera porphyry sequence, where earlier drilling intersected very significant copper-molybdenum mineralisation, including -

**150 metres at 1.16% copper equivalent at Dimbi South**  
**66 metres at 1.01% copper equivalent at Gamagu, and**  
**90 metres at 0.59% copper equivalent at Mumnogo.**

**FIGURE 2**  
Yandera Prospect



Marengo will extend its drilling contract with United Pacific Drilling (UPD) of Madang (PNG) to guarantee rig availability during 2007.

### **METALLURGY**

Although further metallurgical testwork will be carried out during the pre-feasibility study, results from testwork undertaken by AMDEL Laboratories (Adelaide) in 1976 for BHP indicated that recoveries of up to 90% for copper and 80% for molybdenum could be achieved, producing a combined copper-molybdenum sulphide concentrate by utilising a conventional flotation process.

Given the high percentage of hypogene (or primary) material identified within the resource estimate this is particularly encouraging.

With significant advances in extractive technology since that time, it is anticipated that these recoveries can be further improved.

Bond Work Index tests, undertaken at that time, also demonstrated that at some 16 kWh/t, the host rock would not have any abnormal power requirements during the beneficiation process.

### **PROJECT OWNERSHIP**

Marengo recently concluded the acquisition of the remaining interest in the Yandera Project from its former joint venture partner, Belvedere Limited (a private PNG company), by acquiring all of the issued capital in Belvedere Limited, from its existing shareholders.

With a 100% ownership of the Yandera Project, Marengo now has total flexibility in considering future development options.

### **PORT MORESBY STOCK EXCHANGE LISTING**

Marengo recently applied for a secondary listing of its securities on the Port Moresby Stock Exchange Limited (POMSoX), with the aim of building a local shareholder base in the Company's country of focus. This will also give PNG investors an opportunity to trade Marengo securities on a local stock exchange.

It is anticipated that POMSoX listing will take place shortly.

### **THE WAY FORWARD**

With the release of the preliminary JORC compliant\* mineral resource estimate for Yandera, well ahead of schedule, Marengo has demonstrated that the Yandera Copper- Molybdenum Project has the potential to become a world class mining project, which would add significant value for the shareholders of Marengo Mining Limited and the nation of Papua New Guinea.

The directors of Marengo Mining Limited will continue to direct their efforts towards these outcomes in the most effective manner possible.

A media release relating to this announcement will follow shortly.



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Appendix 1: Preliminary Mineral Resource Statement dated 29 September 2006, Golder Associates Pty Ltd.

NOTES:

\*JORC refers to the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2004 Edition).

Intercept for drill hole YD 111 was calculated using a 0.2% copper cut-off for interval boundary.

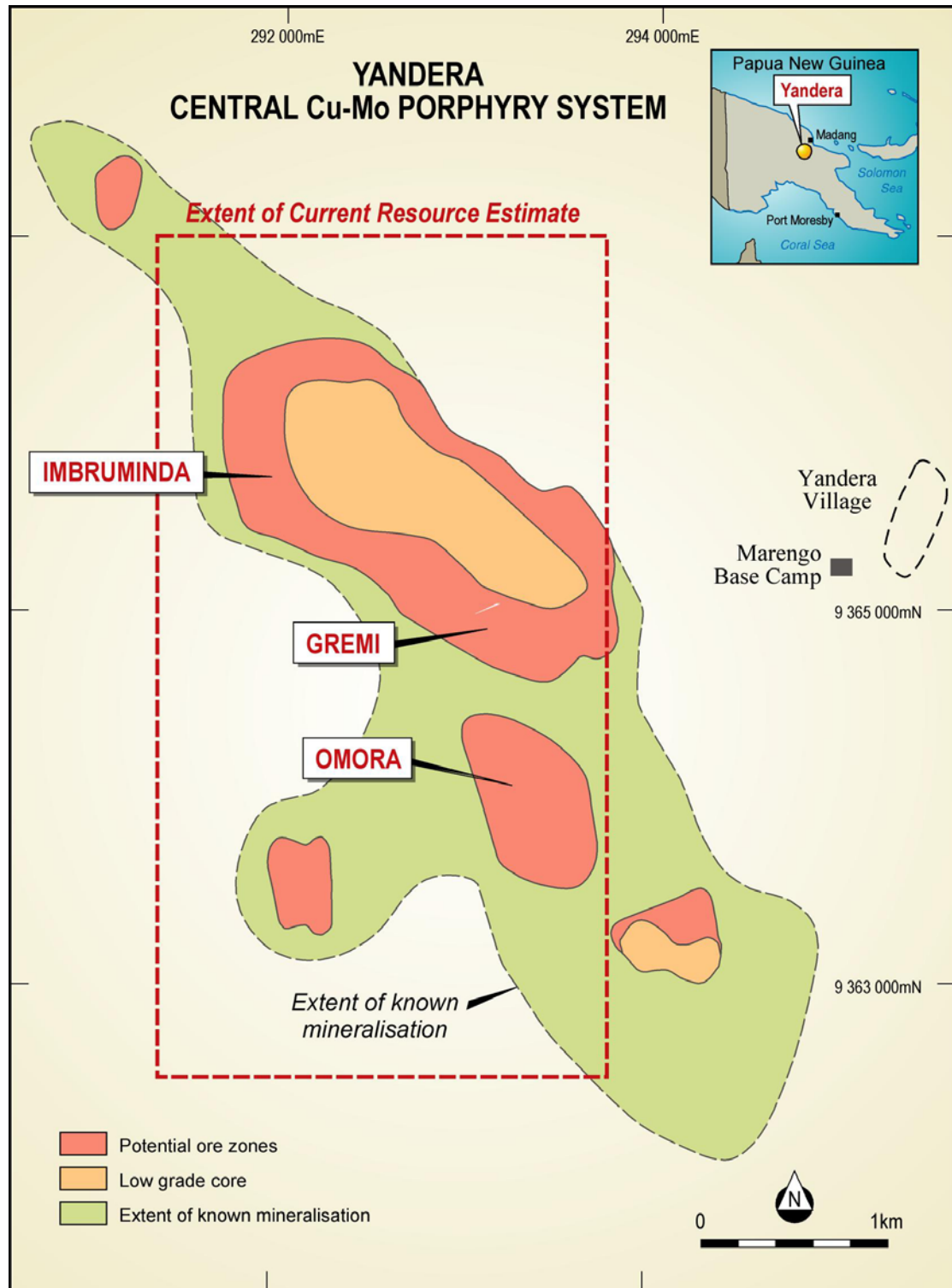
Copper equivalent grades for reported drill hole intercepts were calculated using a molybdenum /copper price ratio of 10:1.

Sections of this report relating to drilling intercepts and mineralisation (excluding the Preliminary Resource Estimate) were prepared by Mr Peter Dendle who is a member of the Australasian Institute of Mining and Metallurgy and a full-time employee of Marengo Mining Limited. Mr Dendle has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which 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 (The JORC Code, 2004 Edition). Mr Dendle consents in writing to the issue of this report, to the extent of matters based on his information in the form and context in which it appears.

The section of this report relating to the Preliminary Resource Statement were prepared by Mr Stephen Godfrey of Golder Associates Pty Ltd. Mr Godfrey is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity undertaken 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 (The JORC Code, 2004 Edition).

Mr Godfrey and Golder Associates Pty Ltd consent in writing to the inclusion in the report of the matters based on their information in the form and context in which it appears.

FIGURE 3



**Golder Associates Pty Ltd**

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29 September 2006

06641116-M01

Mr Les Emery,  
Director,  
Marengo Mining Limited,  
2/9 Havelock St West Perth.

Dear Les

**YANDERA PRELIMINARY RESOURCE**

Please find attached the results of our preliminary estimate of the Yandera Resource.

Yours sincerely  
**GOLDER ASSOCIATES Pty Ltd**

A handwritten signature in black ink, appearing to read "Stephen Godfrey", is written over a light blue horizontal line.

Stephen Godfrey  
Senior Resource Geologist

## YANDERA PRELIMINARY RESOURCE STATEMENT

### **Introduction**

The 2006 Yandera Resource Statement deals with the copper-molybdenum Mineral Resources for the Yandera deposit located 95km southwest of the coastal town of Madang, Papua New Guinea.

The resource model is based on the geological database as at 24 September, 2006. The geological interpretation was supplied by Marengo Mining Ltd. Digital geology modelling, block model construction and grade estimation were undertaken by Stephen Godfrey of Golder Associates using Golder Propriety and Vulcan<sup>TM</sup> software.

The geological interpretation was based on data from 105 Diamond Drill holes (36,384m) containing 11,449 logged and assayed, predominantly 3m, intervals. The geological model extends 6000m along strike South East to North West and covers the approximate 1000m width of the mineralisation.

Sample data was composited to five (5) metres and flagged by the geological domains defined in the geological interpretation. Ordinary Kriging was used to estimate grades within the geological domains. Resources were estimated separately for copper and molybdenum mineralisation in the deposit.

The resource estimate has been classified based on data density, data quality, confidence in the geological interpretation and estimation.

## Results

The preliminary Yandera resource has been classified as inferred. Tables 1 and 2 below breakdown the resource by weathering horizon and domain.

### INFERRED

0.3% Cu equiv. cut off

Horizon	Domain	MTonnes	Cu Equivalent%
Oxide	Marginal Potassic Zone	0.9	0.32
	Clay Sericite Zone	2.8	0.37
	Omora Breccia Zone	4.0	0.37
	Gremi Structural Zone	12.5	0.48
<b>Oxide Total</b>		<b>20.2</b>	<b>0.43</b>
Mixed	Marginal Potassic Zone	0.0	0.31
	Clay Sericite Zone	6.2	0.41
	Omora Breccia Zone	2.9	1.37
	Gremi Structural Zone	2.6	0.53
<b>Mixed Total</b>		<b>11.7</b>	<b>0.67</b>
Hypogene	Marginal Potassic Zone	46.6	0.45
	Clay Sericite Zone	142.5	0.51
	Omora Breccia Zone	33.9	0.58
	Gremi Structural Zone	116.4	0.46
<b>Hypogene Total</b>		<b>339.4</b>	<b>0.49</b>
<b>Grand Total</b>		<b>371.3</b>	<b>0.49</b>

Table 1 Inferred Resource above 0.3% Cu equivalent

### INFERRED

0.5% Cu equiv. cut off

Horizon	Domain	MTonnes	Cu Equivalent%
Oxide	Marginal Potassic Zone	-	-
	Clay Sericite Zone	0.0	0.53
	Omora Breccia Zone	0.1	0.55
	Gremi Structural Zone	4.8	0.59
<b>Oxide Total</b>		<b>5.0</b>	<b>0.59</b>
Mixed	Marginal Potassic Zone	-	-
	Clay Sericite Zone	0.8	0.59
	Omora Breccia Zone	2.8	1.40
	Gremi Structural Zone	1.6	0.60
<b>Mixed Total</b>		<b>5.2</b>	<b>1.03</b>
Hypogene	Marginal Potassic Zone	11.8	0.71
	Clay Sericite Zone	57.0	0.68
	Omora Breccia Zone	16.4	0.81
	Gremi Structural Zone	31.7	0.64
<b>Hypogene Total</b>		<b>116.9</b>	<b>0.69</b>
<b>Grand Total</b>		<b>127.0</b>	<b>0.70</b>


Table 2 Inferred Resource above 0.5% Cu equivalent

Tables 1 and 2 show rounded estimates. This rounding may cause some apparent computational discrepancies. Significant figures do not imply precision. Cu Equivalent is calculated as  $Cu+(10*Mo)$ .

### **Compliance with the JORC code assessment criteria**

This mineral resource statement has been compiled in accordance with the guidelines defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2004 Edition).

Stephen Godfrey is a member of the Australasian Institute of Mining. Stephen have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity undertaken to qualify as Competent Persons as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2004 Edition).



**Stephen Godfrey**  
B.Sc.(Hons), Dip.Ed., MAusIMM  
Senior Resource Geologist  
Golder Associates

**Key points relating to the Yandera September 2006 Preliminary Resource Estimate:**

1. The resource estimate applies to coincident copper and molybdenum mineralization within the mapped Marginal Potassic Zone of the Yandera project in Papua New Guinea.

2. The deposit is delineated by 105 diamond core (36,384m) drilled in various directions through the deposit. The rugged terrain makes siting drillholes difficult. Holes vary in spacing from 50m by 50m over the Gremi zone to 200m by 100m in the peripheral areas. Holes are angled and vertical.

Five drillholes in the Gremi structural zone have been excluded from the resource estimate. These holes have been drilled in a SE-NW orientation sampling the deposit along its strike length. These holes are regarded as anomalous and introduce a positive bias to the sample population when used.

3. Samples are predominantly 3m in length (94%). Sampling is half core assay. Results from new drilling to date show a reasonable correlation between the original sampling and the current program. QAQC data is not readily available for the original assaying. QAQC data for the current drilling program is still being processed. Samples were composited to 5m for analysis and estimation. 6,337 Cu composites and 5419 Mo composites were used in the estimation.

4. Estimation of grades was done using Ordinary Kriging. Kriging parameters were derived from omnidirectional variography. Copper and molybdenum grades were estimated separately. High grade cutting was used to limit the impact of high grade outlier composites. The Cu and Mo grades were estimated in ppm. The copper equivalent grade was calculated as  $(cu + (10 * mo))$ . The reported tonnes and grades were estimated using a 150m by 100m by 50m search ellipse and constrained to nominally no more than 50m below the drilling data. Blocks beyond these limits have not been included in the resource.

5. A Dry Bulk Density value of 2.7 was assigned to all material based on previous work in the area. Work on validating and refining bulk density values by domain and horizon is ongoing.

6. The Resource Estimate was classified based on data density and quality, and confidence levels in the geological interpretation and grade estimation. The wide spaced nature of the data, ongoing work in defining accurate dry bulk densities and confirmation of assay accuracy and precision has resulted in the preliminary resource being classified as inferred.