NOT FOR DISTRIBUTION TO UNITED STATES NEWSWIRE SERVICES
OR
FOR DISSEMINATION IN THE UNITED STATES

For Immediate Distribution | **TSX: MRN**
14 April 2011 | **ASX & POMSoX: MGO**

NEWS RELEASE

RESOURCE STATEMENT - YANDERA APRIL 2011

In accordance with the following statement made in our announcement dated 28 February 2011, please find attached report by Golder Associates Pty Ltd:

A National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* compliant technical report in connection with the updated resource will be filed on the Company's website and on SEDAR within 45 days.

Les Emery
Managing Director / CEO

www.marengomining.com

For further information:
Les Emery
Managing Director
Marengo Mining Limited
Telephone: +61 8 9429 0000
Email: marengo@marengomining.com

Australia:
Fiona Hardouin-Riddle
Investor Relations
Tel: +61 8 9429 0000
Email: fionahr@marengomining.com

North America:
Victoria Russell
Investor Relations
Tel: +1 416 644 8680
Email: investor@marengomining.com

APPENDIX A

Golder Associates Pty Ltd

RESOURCE STATEMENT
YANDERA COPPER MOLYBDENUM PROJECT, MADANG PROVINCE, PAPUA NEW GUINEA
APRIL 2011

TECHNICAL REPORT

April 2011

TECHNICAL REPORT

Yandera Copper Molybdenum Project, Madang Province, Papua New Guinea

Submitted to:
Marengo Mining Limited
Level 2, 9 Havelock Street
WEST PERTH WA 6872

Author:

Stephen Godfrey BSc(Hons)(UNE), DipEd(QU), MAusIMM, MAIG
Associate, Principal Resource Geologist,
Golder Associates

Report Number. 087641287-R17

Distribution:

1 copy Marengo Mining Ltd (+1 electronic)

Golder Associates

Table of Contents

TABLES

FIGURES

3.0 SUMMARY

This technical report provides a summary of the scientific and technical information relating to the Mineral Resource for the Yandera Copper Molybdenum Project in Papua New Guinea. The resource was updated in February 2011. The main points of the report are summarised here:

Property Location and Description

The Yandera deposit is located in the Papua New Guinea Highlands approximately 95 km south-west of Madang. The prospect has been explored by a number of parties since the 1960s and has been wholly controlled by Marengo since 2006.

Ownership

The Yandera Copper Molybdenum Project is located on Exploration Licences 1335 owned by Marengo Mining (PNG) Ltd, a wholly owned subsidiary of Marengo Mining Ltd.

Geology

The Yandera Copper Molybdenum Project contains a porphyry system lying within the core of the Bismarck Intrusive Complex, a Triassic-aged granitic pluton located within the Ramu Fault Zone that runs NW-SE along the northern side of the highlands of Papua New Guinea. Locally the geology consists of dioritic and dacitic porphyries intruding the monzonite-granodiorite. Locally the intrusion has produced zones of brecciation.

Mineralisation

Mineralisation is associated with the intrusion of the porphyries and is characterised by a large marginal alteration halo with an intensely altered core. Copper and molybdenum mineralisation occurs throughout the altered zones, with higher grades associated with the intensive alteration and brecciation.

Exploration Concept

Exploration is focussed on the diamond drill sampling of the alteration zone to identify and model the Cu and Mo distribution of the deposit. Beyond the known alteration zone, geochemical sampling is ongoing in an effort to identify further resources.

Status of Exploration

In the preparation of the resource estimate, data from 345 diamond drill holes has been used. Marengo Mining Ltd has drilled 231 of these holes. The diamond drilling and geochemical sampling programs are ongoing.

Resource

The resource includes estimates for Copper (Cu), Molybdenum (Mo), Gold (Au), Silver (Ag) and Rhenium (Re). Measured, Indicated and Inferred Resources have been reported for Cu and Mo at Copper Equivalent (CuEq) grades. The Au, Ag and Re resource is all inferred.

Yandera Mineral Resource – Cu and Mo

CuEq Cut-Off Grade	Mineral Resource Category	Mt	CuEq%	Cu ppm	Mo ppm
0.20	Measured	132	0.53	3,700	167
0.20	Indicated	490	0.35	2,772	89
0.20	**Combined Measured + Indicated**	**622**	**0.39**	**2,968**	**108**
0.20	Inferred	1,017	0.33	2,840	68
0.25	Measured	124	0.55	3,826	173
0.25	Indicated	349	0.40	3,126	106
0.25	**Combined Measured + Indicated**	**472**	**0.44**	**3,309**	**125**

CuEq Cut-Off Grade	Mineral Resource Category	Mt	CuEq%	Cu ppm	Mo ppm
0.25	Inferred	647	0.39	3,327	81
0.30	Measured	113	0.57	3,980	181
0.30	Indicated	245	0.46	3,468	124
0.30	**Combined Measured + Indicated**	**359**	**0.50**	**3,629**	**143**
0.30	Inferred	417	0.45	3,838	96

*CuEq – Cu Equivalent is calculated as (Cu% + (Mo% x 10))

Yandera Mineral Resource – Au Ag Re

CuEq Cut Off Grade	Mineral Resource Category	Mt	Au g/t	Ag g/t	Re ppm*
0.20	Inferred	1,639	0.07	1.50	0.05
0.25	Inferred	1,119	0.08	1.58	0.05
0.30	Inferred	776	0.09	1.68	0.06

** Re is calculated by regression against Mo

Development

The Yandera Copper Molybdenum Project is currently in the exploration stage of development with a Definitive Feasibility Study running concurrently. Local infrastructure is confined to exploration camp facilities.

Operations

Currently no mining or processing operations are in place at the Yandera Copper Molybdenum Project.

Author's Conclusions

The author concludes that exploration of the Yandera deposit has defined and confirmed a significant porphyry copper/molybdenum deposit. Modelling has produced a robust estimate of the contained metal.

Recommendations

Based on the authors' analyses of the Yandera Copper Molybdenum Project it is recommended the following work be addressed by Marengo

1) Detailed structural and geological interpretations should continue. The detailed geological interpretation that has been completed for the Gremi area should be extended to the rest of the deposit.

2) The resource model should be updated when the geological interpretation is complete.

3) Investigation into the provenance and reliability of the historical Au and Ag analyses should be undertaken.

   Pre-Marengo Au and Ag assays records are based on a variety of analyses by several companies. A quality assurance program should be undertaken to confirm the reliability of these results.

4) Further Re analyses should be undertaken to confirm the current relationships used to calculate the Re grades in the resource.

   Re values in the current resource are based on a very limited number of samples. A pulp re-assaying program should be undertaken for a selection of samples over the full extent of the mineralisation and for each of the various lithological units. Approximately 1000 pulps should be re-assayed to enable an assessment of the consistency of the Re and the accuracy off the current correlation with Mo. This represents approximately 10% of the sample population.

The following table provides an estimate of the expected cost of this work:

Task	Estimated Cost
1) Ongoing Geological Interpretation	AUD$100 000
2) Resource update	AUD$40 000
3) Au/Ag Quality Assurance (Geologist/DBA – 3 months)	AUD$50 000
4) Re Analysis (~1000 pulps)	AUD$50 000

4.0 INTRODUCTION AND TERMS OF REFERENCE

Golder Associates Pty Ltd ("Golder") has been retained by Marengo Mining Limited ("Marengo") to prepare an independent technical report on Marengo's Yandera Copper Molybdenum Project in Papua New Guinea (the "Yandera Copper Molybdenum Project"). This report is prepared to conform to National Instrument 43-101 and Form 43-101F1. The technical report is required pursuant to National Instrument 43-101 to document the updated mineral resource estimate for the Yandera Copper Molybdenum Project reported by Marengo in a news release dated 28 February, 2011.

The Yandera porphyry Cu Mo deposit is located in the Papua New Guinea Highlands approximately 95 km south-west of Madang. The prospect has been explored by a number of parties since the 1960s and has been wholly controlled by Marengo since 2006.

Stephen Godfrey, Associate and Principle Resource Geologist with Golder Associates, visited the Yandera site on 22-23 November 2006.

GLOSSARY OF TERMS

Accuracy	The ability to obtain the correct result
ASX	Australian Securities Exchange
Ag	Silver
Au	Gold
Blank	Sample without metal content to check possible contamination during assaying (e.g. crushed glass)
BMR	Bureau of Mineral Resources - Australia
Cu	Copper
Cut off	Grade above which mineralised material is considered to be ore
CuEq	Copper equivalent (Cu+(Mo*10))
DataShed	Database Management software - www.datashed.com.au
DTM	Digital terrain model - Electronic computer model of topography
Duplicate	Sample that has been split from another to check the field sampling or laboratory's precision
EL	Exploration Lease
ELA	Exploration Lease Application
Golder	Golder Associates Pty Ltd
g/t	Grams per tonne ≡ parts per million (ppm)
HQ	Diamond core diameter 63.5 mm
ICP-OES	Inductively Coupled Plasma Optical Emission Spectrometry
IP	Induced Polarisation - geophysical exploration technique
ICP	Inductively Coupled Plasma
ICP-OES	Inductively Coupled Plasma Optical Emission Spectroscopy
ISIS	Maptek proprietary database format
JV	Joint Venture
JORC	Australasian Joint Ore Reserves Committee
Kriging	Grade estimation technique incorporating variability by distance
Marengo	Marengo Mining Ltd and or any of its subsidiary companies
ML	Mining Lease
Mo	Molybdenum
MRA	Mineral Resource Authority - PNG
NQ	Diamond core diameter 47.6 mm
Ordinary Kriging	Estimation of grades into block model using a grade estimation technique incorporating variability by distance
Ore	Mineralised material that can be economically mined
PQ	Diamond core diameter 85.0 mm
PPM	Parts per million - 10,000 ppm = 1%
PNG	Papua New Guinea
Precision	The ability to obtain the same result each time
QQ	Quantile Quantile
Re	Rhenium
RL	Reduced Level
SML	Special Mining Lease

Accuracy	The ability to obtain the correct result
Standard Sample	Specially prepared sample whose metal grade is very accurately known and certified
TSX	Toronto Stock Exchange
Variogram	Mathematical and graphical way of representing variation of data as a function of separation distance
Vulcan	Computer program by Maptek that is used to carry out resource estimation and mine planning
XRF	X-Ray Fluorescence Spectrometry

5.0 RELIANCE ON OTHER EXPERTS

This report has been prepared by Golder Associates Pty Ltd for Marengo Mining Limited. The information, interpretations, conclusions, opinions, and recommendations contained herein are based upon:

- Information available to Golder at the time of preparation of this report
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and opinions supplied by Marengo and other third party sources are listed as references.

6.0 PROPERTY DESCRIPTION AND LOCATION

6.1 Area and Location

The Yandera Copper Molybdenum Project is located in Madang Province, Papua New Guinea at 5.75° S and 145.12° E, approximately 95 km SW of Madang in the Bismarck Range between 1500 m and 2600 m elevation (Figure 6-1). The Yandera resource is located in Marengo's tenement EL 1335.

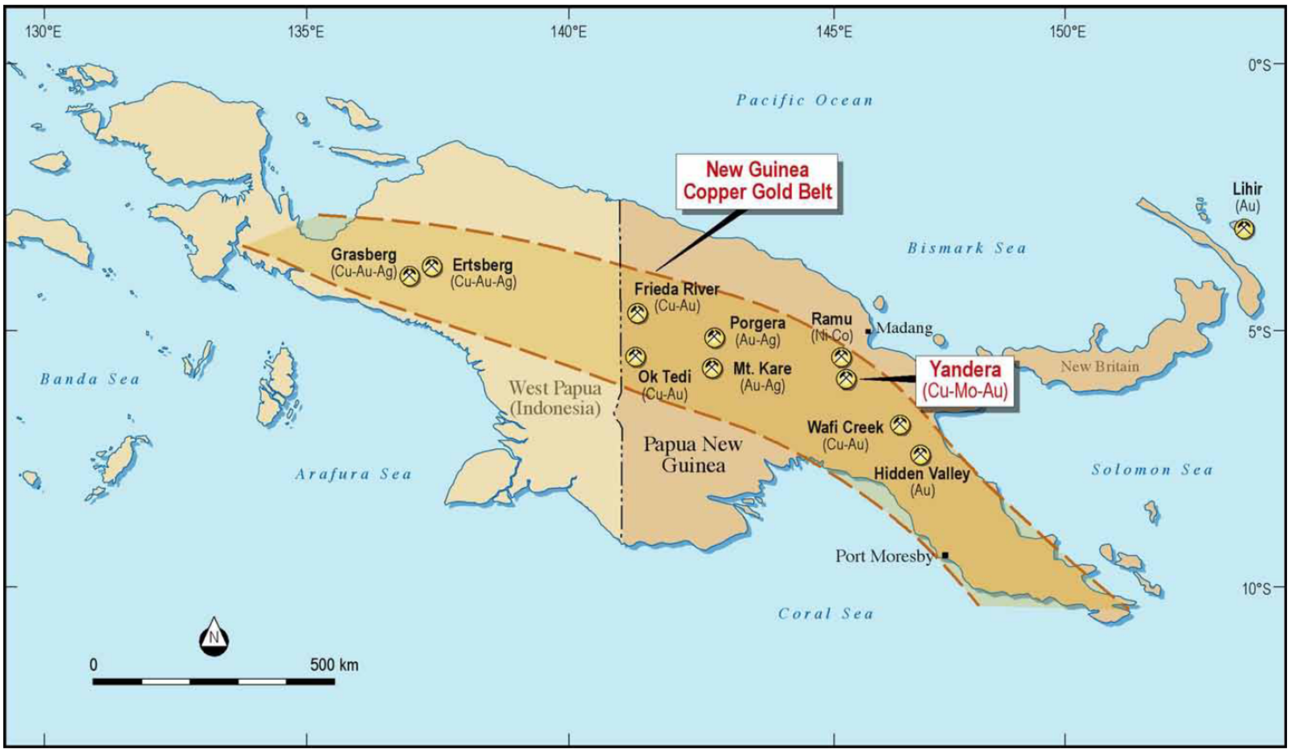


Figure 6-1: Yandera Copper Molybdenum Project, Regional Location

6.2 Title to the Yandera Copper Molybdenum Project

Exploration activities in PNG are governed by the issue of Exploration Licences (EL) which confer on the holder an exclusive right to explore for minerals over the defined area for a two year period and the right to apply for a mining tenement. The holder of an EL may make application for a Mining Lease (ML) or a Special Mining Lease (SML). Most small-scale operations apply for a ML, whilst large-scale projects apply for, and operate under, an SML. A ML confers on the holder an exclusive right to mine for a period of up to 20 years, with an entitlement to apply for a further renewal of up to 10 years. Each SML has a term of up to 40 years. An SML requires an appropriate mining development contract to have been entered into with the State of Papua New Guinea and approval from the Minister for Mining and Petroleum for its development proposal.

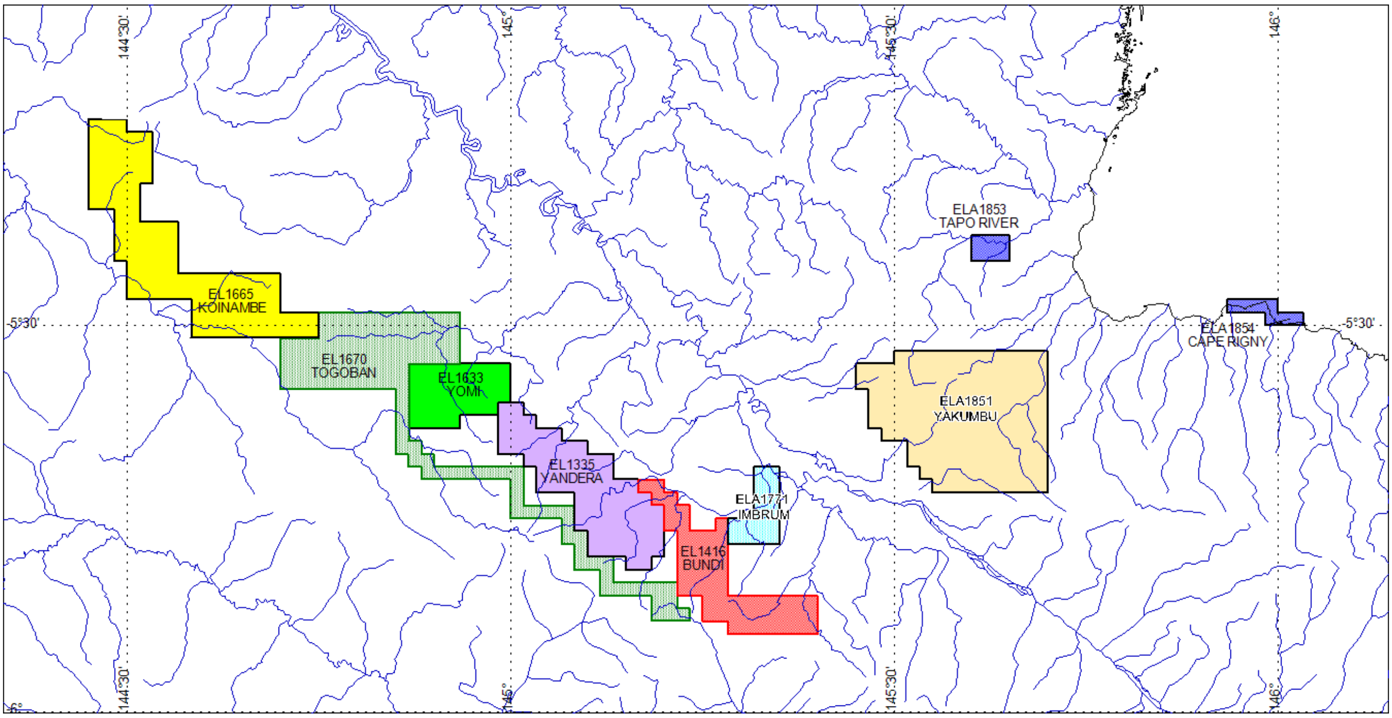


Figure 6-2: The Yandera Copper Molybdenum Project, Tenements

The current resource for the Yandera Copper Molybdenum Project is wholly contained within EL 1335. EL 1335, was granted for an initial two year term commencing on 20 November 2003 and ending on 19 November 2005 to Belvedere Limited, a PNG constituted company. EL 1335 was renewed for a further two year period commencing 20 November 2008 and ending on 19 November 2009 (Figure 6-2).

Belvedere Limited was acquired by, and amalgamated with, Marengo Mining (PNG) Limited, a PNG constituted company and wholly-owned subsidiary of Marengo Mining Limited.

In addition to EL 1335 Marengo hold other tenements in the region. Table 6-1 summarises to current status of Marengo's PNG tenements, and Table 6-2 the expenditure commitments required to maintain them.

Table 6-1: Marengo Mining Limited Tenements

Purpose	Tenement	Area (km^2)	Granted	Expiry	Comments
Yandera	EL 1335	246.5	20.11.2003	19.11.2011	
Yandera Exploration	EL 1416	184.4	5.6.2006	4..6.2010	application for renewal lodged
Infrastructure Leases	EL 1771	54.8	21.3.11	20.3.2013	
	ELA 1853	20.7	application		
	ELA 1854	23.9	application		
Regional Exploration	EL 1665	353.3	3.11.2008	2.11.2010	application for renewal lodged
	EL 1633	119.0	3.11.2008	2.11.2010	application for renewal lodged
	EL 1670	383.7	25.3.2011	24.3.2011	application for renewal lodged
	ELA 1851	471.8	application		
Total		1858.2			

Table 6-2: Tenement Expenditure Commitments

Purpose	Tenement	Year 1	Year 2	Rent/pa
Yandera	EL 1335	PGK 11,600,000	PGK 10,900,000	PGK 33,840

Purpose	Tenement	Year 1	Year 2	Rent/pa
Yandera Exploration	EL 1416	PGK 100,000	PGK 150,000	TBA
Infrastructure Leases	EL 1771	PGK 50,000	PGK 150,000	PGK 1,440
	ELA 1853	PGK 45,000	PGK 30,000	TBA
	ELA 1854	PGK 25,000	PGK 25,000	TBA
Regional Exploration	EL 1665	PGK 300,000	PGK 250,000	TBA
	EL 1633	PGK 300,000	PGK 250,000	TBA
	EL 1670	PGK 300,000	PGK 250,000	TBA
	ELA 1851	PGK 100,000	PGK 100,000	TBA

6.3 Property Boundaries

There is no requirement for boundary markers on the ground in respect of Exploration Licences. Location of boundaries when required is done using Global Positioning Equipment (GPS). In applying for an ML or SML all lease boundaries must be clearly marked out in accordance with the Mining Act.

6.4 Location of Mineralisation and Mine Workings

Mineralisation within the Yandera Copper Molybdenum Project area covered by EL 1335 has been identified at Yandera, Gogobangu, North and South Bononi, and Queen Bee. The Yandera deposit has been tested by surface geochemical sampling, trenching and drilling. The other areas are copper and molybdenum exploration targets.

There are no existing mine workings or mining infrastructure within any of the Marengo Tenements. Marengo has recently completed and exploration adit in order to obtain a bulk sample, and has plans for a second adit.

Historically there has been some artisan mining confined to small scale panning and sluicing for gold in the creeks in the area. There is currently no activity of this nature around Yandera.

6.5 Royalties and Encumbrances

There are no known royalties, back-in rights or other encumbrances to which the Yandera Copper Molybdenum Project area is subject except that upon the issuance of a Mining Lease a royalty will become payable to the State. The royalty has statutory minimum value of 1.25% of f.o.b. revenue or smelter returns, however mining agreements currently provide for a standard 2% royalty value. In addition, as a matter of policy, the state reserves in every Exploration Licence, the right to elect, at any time prior to the commencement of mining, to make a single purchase of up to 30% equity interest in any mineral discovery arising from the Exploration Licence. The purchase will be at a price equal to the States pro rata share of the accumulated exploration expenditure and thereafter, unless otherwise agreed, its pro rata share of exploration and development costs.

6.6 Environmental Liabilities

The Yandera Copper Molybdenum Project contains no known environmental liabilities.

6.7 Required Permits

To commence mining of the Yandera Copper Molybdenum Project, Marengo will need a Mining Lease and an Environmental Permit.

When undertaking drilling activities an Environmental Permit is required to allow the lease holder to “discharge wastes into the environment”. Marengo currently holds Environment Permit for drilling number WD-L2A (105) and Environmental Permit to extract water number WE-L2A(81) both issued under Section 65 of the PNG Environment Act 2000 and expiring 3 August 2017.

Written permission for the construction of the exploration adit was obtained from the MRA Chief Inspector of Mines on 26 November, 2011.

Marengo have currently submitted draft exposition to the civil aviation authority (CRA Part 139) giving notice of their intent to build and operate an airport within ELA 1771 in the Ramu Valley.

6.8 Surface Rights

Under the Mining Act, the tenements held by Marengo grant access to the project area for exploration purposes subject to an obligation to compensate relevant landowners for damages caused by exploration and development activities. Prior to development of the Yandera Copper Molybdenum Project Marengo will be required to negotiate compensation agreements with the relevant landholders. Currently a Land Owners Association (LOA) is being formed. The LOA will undertake the compensation negotiations.

7.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

7.1 Accessibility, Proximity to a Population Centre and Nature of Transport

The Yandera Copper Molybdenum Project lies in a steep and mountainous part of the Bismark Range with narrow deeply incised valleys draining fast flowing creeks/rivers.

The Yandera Copper Molybdenum Project can be accessed by road either from the Highlands Highway via Kundiawa through Gembogl and Keglsugl or through Banz-and Kol or from the Madang Highway, through Brahman and Bundi. It is approximately 100 km by road from Madang (population approximately 90,000) and 67 km by road from Kundiawa, the capital of Simbu Province (population approximately 40,000). The roads are, in general, poorly maintained so routine access to site is by helicopter. Parts of the Yandera Copper Molybdenum Project area can be accessed by light fixed-wing aircraft from the all-weather strips located at Bundi about 10 km to the east and Keglsugl about 12 km to the south-west. Both airstrips are located just outside the tenement. Marengo plan to operate an airport in the Ramu valley as part of the mine infrastructure development. The remainder of the project area to the NW and SE is inaccessible by road or fixed wing aircraft. Helicopter or foot access are the only options.

The people of Yandera are the traditional landowners on which the Yandera Copper Molybdenum Project porphyry copper deposit is located. Yandera village is made up of two main clans; the Tudiga and the Yandima clans. The Tudiga clan has three sub-clans, Bandi, Kanaroa and Gemnaga-Narova and the Yandima clan has four sub-clans, Kumbrubangi, Denguru, Iwangu and Kunumakeme. The two clans comprise a total population of about to 1200 people residing mainly in Yandera village. The relationship between Marengo and the traditional landowners is very good.

7.2 Topography, Elevation, Climate and Vegetation

Much of the Yandera Copper Molybdenum Project area is heavily forested, but the Gremi and Omora prospect areas are covered by secondary regrowth of kunai grass, pitpit, ferns, etc. Two main tributaries of the Imbrum River, the Imbrumuda to the west and Tai-Aiyor to the east drain the prospect. Elevations vary from 1500 m in the river valleys to about 2,800 m on highest peaks. The Yandera Copper Molybdenum Project is about 15 km east of Mt Wilhelm which rises to 4,509 m. Although within the tropics the elevation moderates the climate and temperatures vary between 15°C and 25°C throughout the year. The annual rainfall of three to five metere is heaviest during the rainy season between November and April. Field activities are suspended for three to four months during this rainy period.

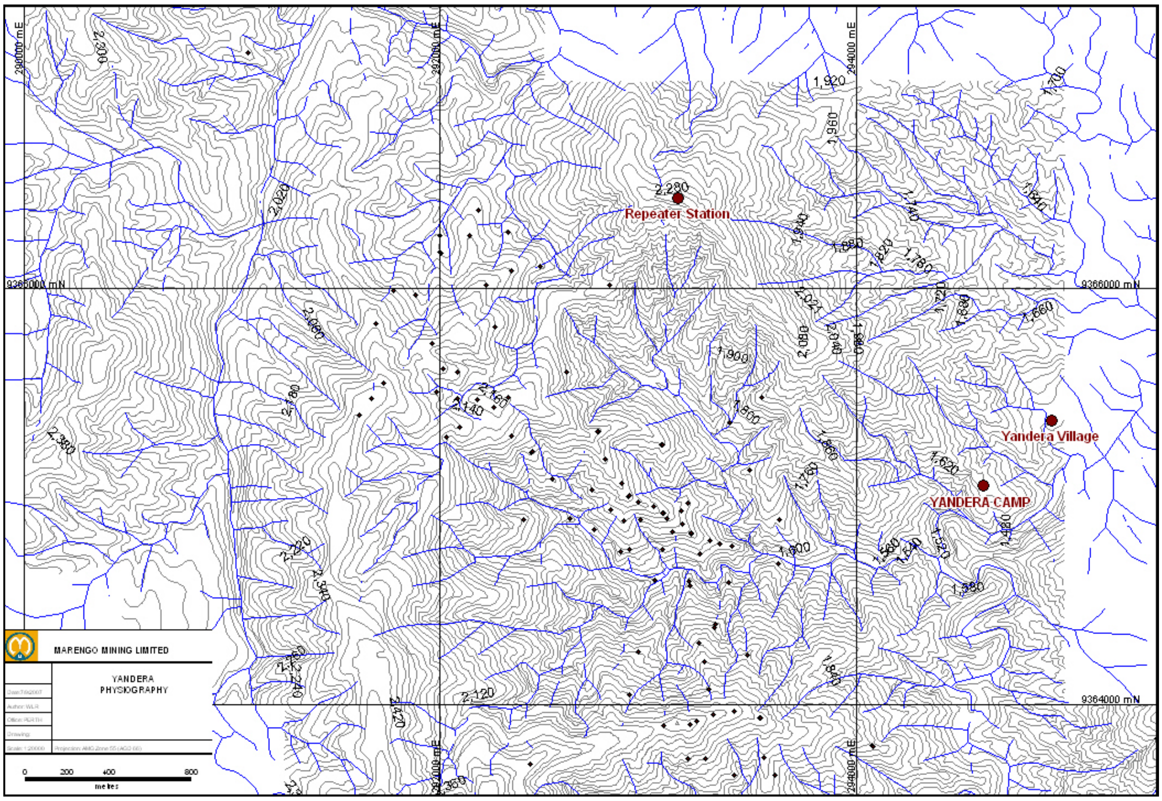


Figure 7-1: Yandera Copper Molybdenum Project – Local Physiography

7.3 Infrastructure

Currently the only site infrastructure consists of the exploration camp, several fly camps and the Yandera Village. The exploration camp, accommodating 40 people, consists of a series of buildings constructed from local timbers and material brought in from Madang. The exploration fly camps are temporary by design and constructed from local materials with plastic and canvas used for weatherproofing. The fly camps accommodate approximately 300 people. Village buildings are a mix of traditional construction using local timber and thatch with imported metal roofing material (Figure 7-2 and Figure 7-3).

Electrical power to the exploration camp is provided by diesel generators (44 kva, 240 v, 15 amp, 3 phase). The generators are run from daylight to early evening. The fly camps use 5 kva single phase diesel generators. PNG Power Corporation currently reticulates electricity to the Ramu Valley approximately 15 km north-east of the Yandera Copper Molybdenum Project. It is anticipated that power for the project will ultimately be purchased from the PNG Power Corporation or supplied from an owner operator facility on site.

Stream water is used for drinking and cooking. Water is drawn directly from streams high in the catchment and gravity fed to two 20,000 litre storage tanks. A similar system is used for the fly camps. The local creeks flow all year round. Water supply for the operation will be assessed when the final location for any processing plant is determined.

Personnel for general camp and exploration tasks are employed on a casual basis from Yandera Village. PNG professional staff work on a rostered basis out of Madang, Port Moresby and Lae. Australian expatriate staff work a fly-in fly-out roster from a Perth base. With the development of a mine additional personnel would need to be drawn from further away, principally Madang. Skilled and semi-skilled labour will be drawn from the local region with expatriate personnel employed where necessary.

Marengo currently has surface rights over the entire area of EL 1335 and EL 1416. However prior to development of the Yandera Copper Molybdenum Project, Marengo will be required to negotiate compensation agreements with the relevant landholders. The area covered by EL 1335 and EL 1416 is sufficient for development of the Yandera Copper Molybdenum Project mine.

It is currently proposed that initial waste rock movement will be directed toward the construction of flat areas for the placement of the mine infrastructure – ore stockpiles, maintenance and administration buildings. After the construction/development phase areas for the disposal of waste rock have been identified in adjacent valleys within the Yandera Copper Molybdenum Project area.

It is currently proposed that crushed ore be transported to the coast near Madang for processing. It is proposed that tailings will be disposed of off shore.

Figure 7-2: Yandera Exploration Camp

Figure 7-3: Exploration Fly Camp (left) and Yandera Village (right)

8.0 HISTORY

Since discovery in the 1950s the area has been explored by a number of companies. Table 8-1 summarises the ownership history for the Yandera Copper Molybdenum Project area.

Table 8-1: Exploration History

Year(s)	Operator
Late 1950s	Discovery
1968-1972	Kennecott Exploration (Australia) Pty Ltd
1973-1974	Kennecott/Triako (Amdex) JV
1974-1976	Kennecott/Triako (Amdex)/BHP JV
1976-1978	Kennecott/Triako (Amdex) JV
1978-1980	Triako
1981-1983	Triako/Elf Aquitane JV
1983-1989	Triako
1990-1992	No Tenement Holder
1992-1998	Highlands Gold Ltd
1998-2003	Highlands Pacific/Cyprus Amax JV
2003-2005	Belvedere
2005-2006	Belvedere/Marengo Mining Ltd JV
2006-	Marengo Mining Ltd

From the work undertaken prior to 2003 several resource estimates were completed. These are summarised in Table 8-2.

Table 8-2: Historical Resources

Year	Company	Drill holes	Cut off Grade (%Cu)	MTonnes	%Cu	ppm Mo	g/t Au
1975	BHP[1]	75	0.2	338	0.42	146	0.1
1976	Triako[2]	~90	0.2	1143	0.33	-	-

[1] Bumstead, E. *et al*. Yandera Copper Prospect, PNG. Geological Appraisal. The Broken Hill Proprietary Company Limited Australia, Exploration Department, February 1976.
[2] Greenway, D *et al*. Review of Yandera Mineralisation potential, Triako Mines N.L.. February 1981.

The 1975 figures are cited as ‘mineable reserves’. This material would not be considered a Mineral Reserve under current JORC (2004) or CIM classification schemes. The 1976 Triako resource does not cite a resource classification for the material.

The copper, molybdenum and gold resources in Table 8-2 are based on historical data, interpretation and geological models and are no longer relevant or reliable and have been superseded by the resource estimate set out in Section 19.0.

Section 12.0, Exploration, details the exploration and development work undertaken by the previous owners and operators of the Yandera Copper Molybdenum Project.

There has been no mining and metal production from the Yandera Copper Molybdenum Project.

9.0 GEOLOGICAL SETTING

9.1 Regional and Property Geology

The Yandera Copper Molybdenum Project porphyry system lies within the core of the Bismarck Intrusive Complex, an early Miocene granitic pluton located within the Ramu Fault Zone that runs NW-SE along the northern side of the highlands of Papua New Guinea. The fault system comprises a 50 km broad zone of convergence with translational, normal and reverse fault movements over time that has resulted in flower style fault structures on both sides of the faulted complex. The Bismarck Intrusive Complex lies towards the south-eastern edge of the fault complex and is bounded to the east by up-thrust marine sediments and the Ramu Ophiolite Complex. The NW-SE elongation of the Bismarck Pluton and the Yandera Porphyry Complex mimics the general trend of the Ramu Fault to the east of the project area. Stepping back from the project area it is notable that the location of the Bismarck Intrusive Complex is coincident with a prominent flexure of the Ramu Fault Zone where the strike of the fault zone changes from NW-SE to E-W (see plan above). Dextral movement along the Ramu fault would presumably result in extension along NW-SE structures in the Yandera District, conversely sinistral movement would presumably result in compression across the fault zone and extension along NE-SW structures which host the young – post-porphyry dyke swarms (BHP geological plans). The stress conditions along the Ramu Fault Zone and the nature of the translational movements over time would therefore presumably be the principal mineralisation control at Yandera (Meldrum, 2007).

9.2 Local Geology

The main area of interest in the Yandera Copper Molybdenum Project is divided into three principal areas – Imbruminda, Gremi and Omora (Figure 9-1). At the local scale the geology consists of dioritic and dacitic porphyries intruding the monzonite-granodiorite of the Bismarck intrusive complex. The porphyries follow the general NW-SE regional trend and are cross cut by SW-NE dislocations and later intrusives. Associated with the main porphyries are breccia zones principally identified at Omora and Gremi to date. The Porphyries and breccias are coincident with the mineralising event. The SW-NE trending leucocratic quartz diorite porphyry dykes are un-mineralised. The porphyry events show a poorly developed concentric structure normally associated with this type of deposit, with the 'barren' quartz core located immediately north of Gremi.

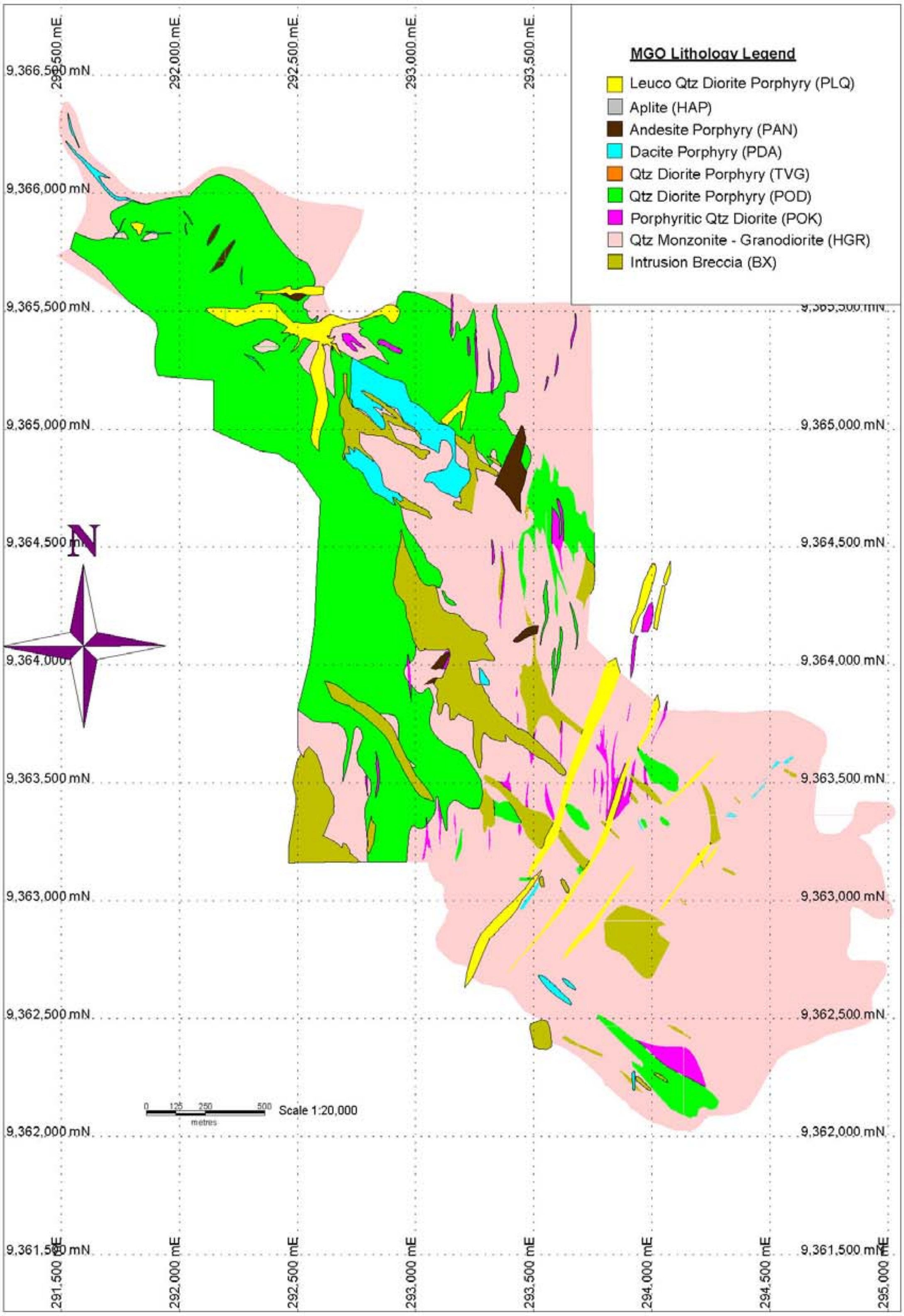


Figure 9-1: Yandera Copper Molybdenum Project – Local Geology

10.0 DEPOSIT TYPES

The term porphyry is used to describe two quite different aspects of the geology at the Yandera Copper Molybdenum Project. Firstly, it is used to describe the porphyritic intrusive units of which many phases were emplaced over a broad area, and secondly the term encapsulates the Cu-Mo mineralisation style that is linked to several specific phases of the porphyritic intrusives. Meldrum (2007) has noted at least 30 porphyry variants at Yandera. These include variations in grain size, mineralogical, colour and textural variations, and units with specific textural features, such as flow banding. Based primarily on textural characteristics supported by observed contact relationships the porphyry variants have then been sub-divided into five categories - the granodiorite of the Bismarck Pluton and four groupings of the pre-mineral and mineral porphyry phases that relate to at least two separate porphyry events.

The defined lithological groupings have been developed based on the spatial relationships between the intrusives logged in the Gremi drill holes, but as the drilling has extended into the other Yandera Copper Molybdenum Project areas the basic groupings appear to be applicable for the Yandera Copper Molybdenum Project as a whole.

In the order of emplacement some of the phases listed as late - dyke like bodies could relate to either of the early or late porphyry. In these instances, the overprinted alteration and mineralisation characteristics of the intrusives are then employed to differentiate between the early and late porphyry events.

The key aspects used to differentiate the various groupings relate to the textural characteristics of the various intrusives. The underlying assumption being that the earliest intrusives were emplaced at depth the younger 'porphyritic' phases as the system as a whole was uplifted and unroofed. The earliest phases of the Yandera Copper Molybdenum Project intrusive complex are plutonic in character and are grouped under the 'IP' - intrusive plutonic identifier. In the early reports on the project the Bismarck plutonic rocks are most commonly referred to as quartz monzonites.

The current interpretation defines these lithologies as granodiorites and diorites. The diorites more commonly occur as xenoliths in the granodiorite, but in some instances broader intervals are noted and logged separately. The early or pre-mineral intrusives are characterised by their ubiquitous coarse grained equigranular texture. These phases can be mineralised and altered but only in close proximity to the later 'porphyry phases' or cross cutting structures. The earliest 'porphyry phases' were emplaced while the complex was still deeply buried, perhaps three kilometres or greater, and on the basis of the associated alteration and mineralisation these early phases have been subdivided into pre-mineral and mineralising units. The pre-mineral phases which retained a distinctly plutonic texture are characterised by the appearance of feldspar phenocrysts. The subsequent mineralising porphyry phases, though similar in composition have a hypabyssal appearance with feldspar, quartz and hornblende phenocrysts set in a fine to medium grained equigranular groundmass. From a textural perspective it appears likely that the earliest mineralisation may have occurred when the complex had risen to about two kilometres depth. The younger or second event porphyries at Gremi, where age relationships can be determined from observed contact relationships, are characterised by their strongly porphyritic textures, with phenocrysts set in fine grained to aphanitic groundmass components. Any estimation of depth of emplacement is conjecture but serves to express how fast the uplift and un-roofing can be during deposit formation. The subdivision of the intrusives on a textural basis is practical but may not always be correct, given that the chilled margins of the early porphyry intrusions can closely resemble the second event porphyries, but as a guide the method has some advantages over the classifications used by other workers at Yandera where the intrusive phases are subdivided on their physical characteristics with limited emphasis on their contact relationships (Meldrum, 2007).

11.0 MINERALISATION

11.1 Alteration

The Yandera Copper Molybdenum Project mineralisation is hosted by a porphyry copper complex. The mineralisation is intimately associated with alteration throughout the complex. The three key alteration facies in relation to the mineralisation at Yandera include potassic, intermediate argillic and sericitic alteration. The alteration is widespread and zoned, from a central potassic (secondary biotite-potassium-felspar) into an overall envelope of propylitic (chlorite-epidote) alteration (Figure 11-1 and Figure 11-3). Pervasive structurally controlled phyllic alteration occurs mainly as an overprint over potassic alteration. Potassic alteration also develops outside the main zone but along structures. This structurally controlled potassic alteration varies in width up to 50 m, enveloped by an outer propylitic alteration. Drilling has intersected the porphyry over an area in access of 6 km by 2 km but zoned alteration and geochemical halos persist for some distance beyond the existing drilling.

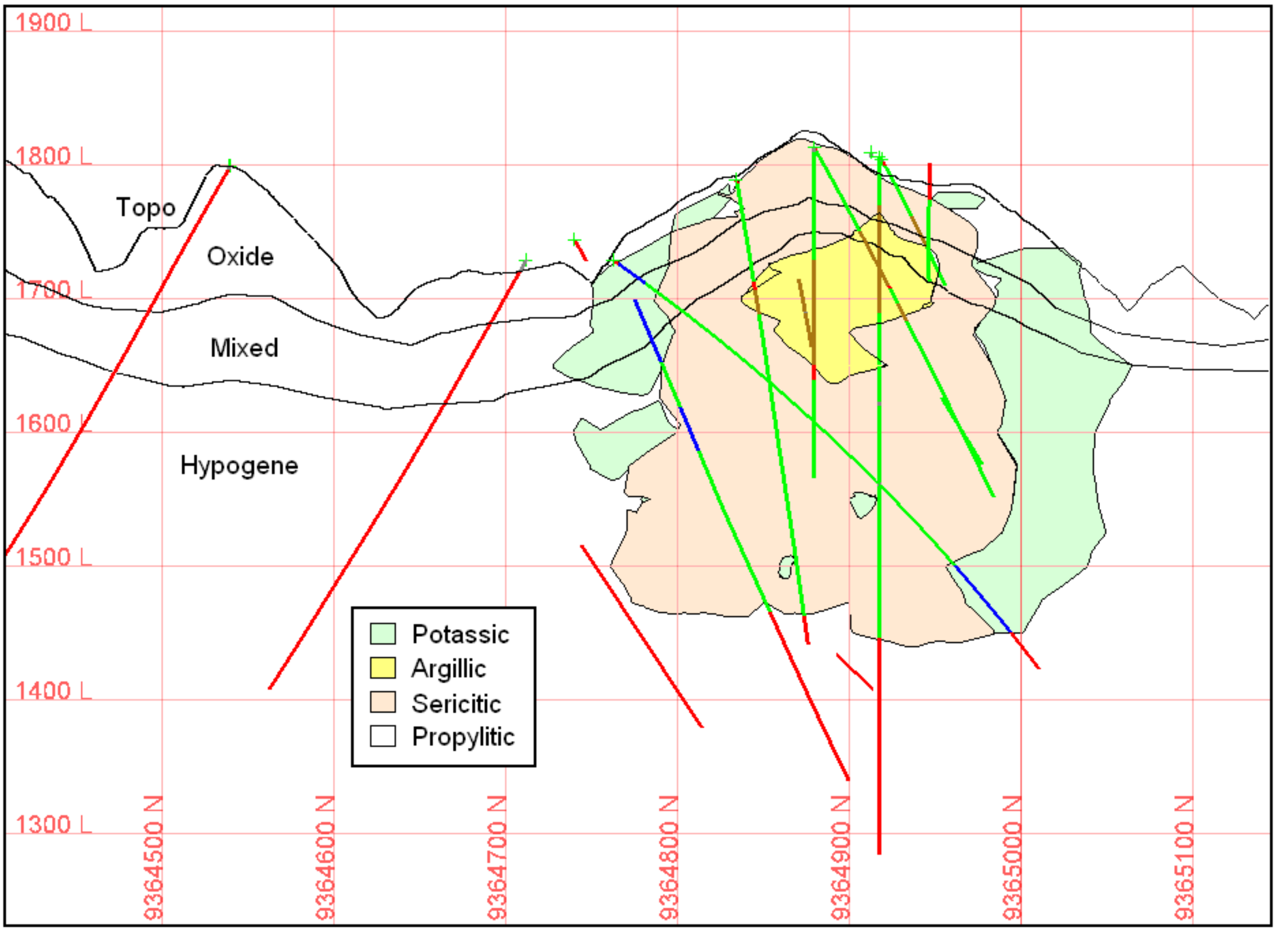


Figure 11-1: Schematic Cross Section (Looking NW) – Alteration at Gremi

11.2 Mineralisation

The structural dislocation at Yandera, and specifically extensional tectonics provided the plumbing for the emplacement of multiple mineralising intrusives. The mineralisation events appear to have occurred across an extended time frame. As a result almost all lithologies are mineralised and in many instances multiple mineralisation events are locally over printed such that it is not unusual to note multiple alteration events and four or more mineralisation styles with cross cutting relationships.

Significant drill hole copper intercepts have been obtained from the Gremi, Dimbi, Omora and Imbruminda zones. Rather than these mineralised zones representing separate small individual bodies, evidence points to them being part of one very large multiphase porphyry copper system. The mineralisation comprises mainly pyrite, chalcopyrite and bornite in the hypogene zone and in the oxide and mixed zones minor malachite, chrysocolla, and some chalcocite are the main copper minerals. Occasional native copper is noted at Omora. Molybdenum mineralisation is dominantly molybdenite as fracture coatings. Gold and silver are present throughout the system in relatively minor quantities, however significant precious metal concentrations formed late and appear to be localised within structural zones.

The mineralisation, like the alteration, shows concentric zoning (Figure 11-2). A general correlation between better copper and molybdenum grades with stronger sericite-chlorite alteration holds and a correlation of strong copper in areas of intense potassic alteration and stronger molybdenum grades with weaker potassic hold true in the principal target areas.

The weathering profile varies with topography but is generally shallow. Supergene mineralisation is only weakly developed at Yandera.

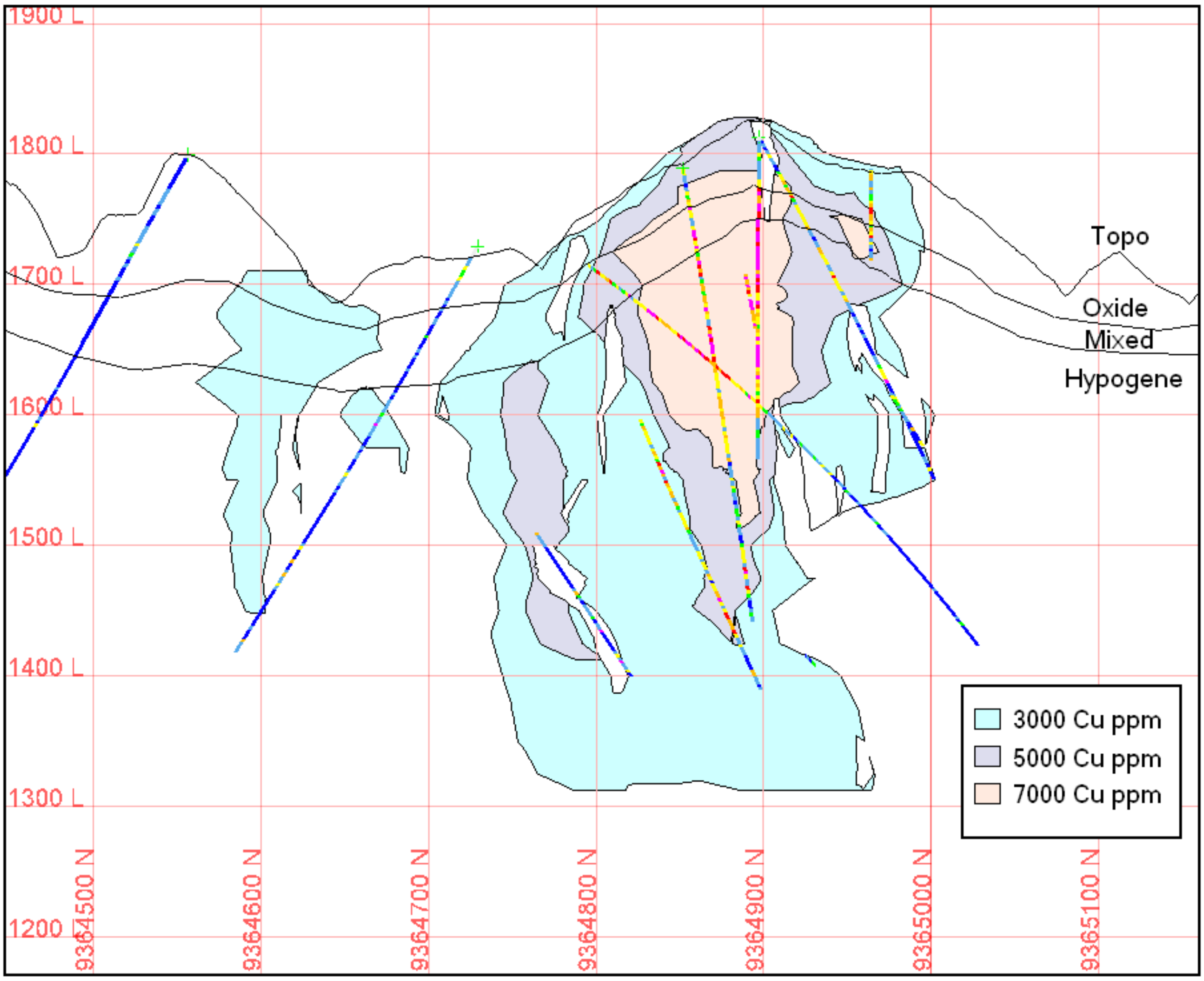


Figure 11-2: Schematic Cross Section (Looking NW) – Mineralisation at Gremi

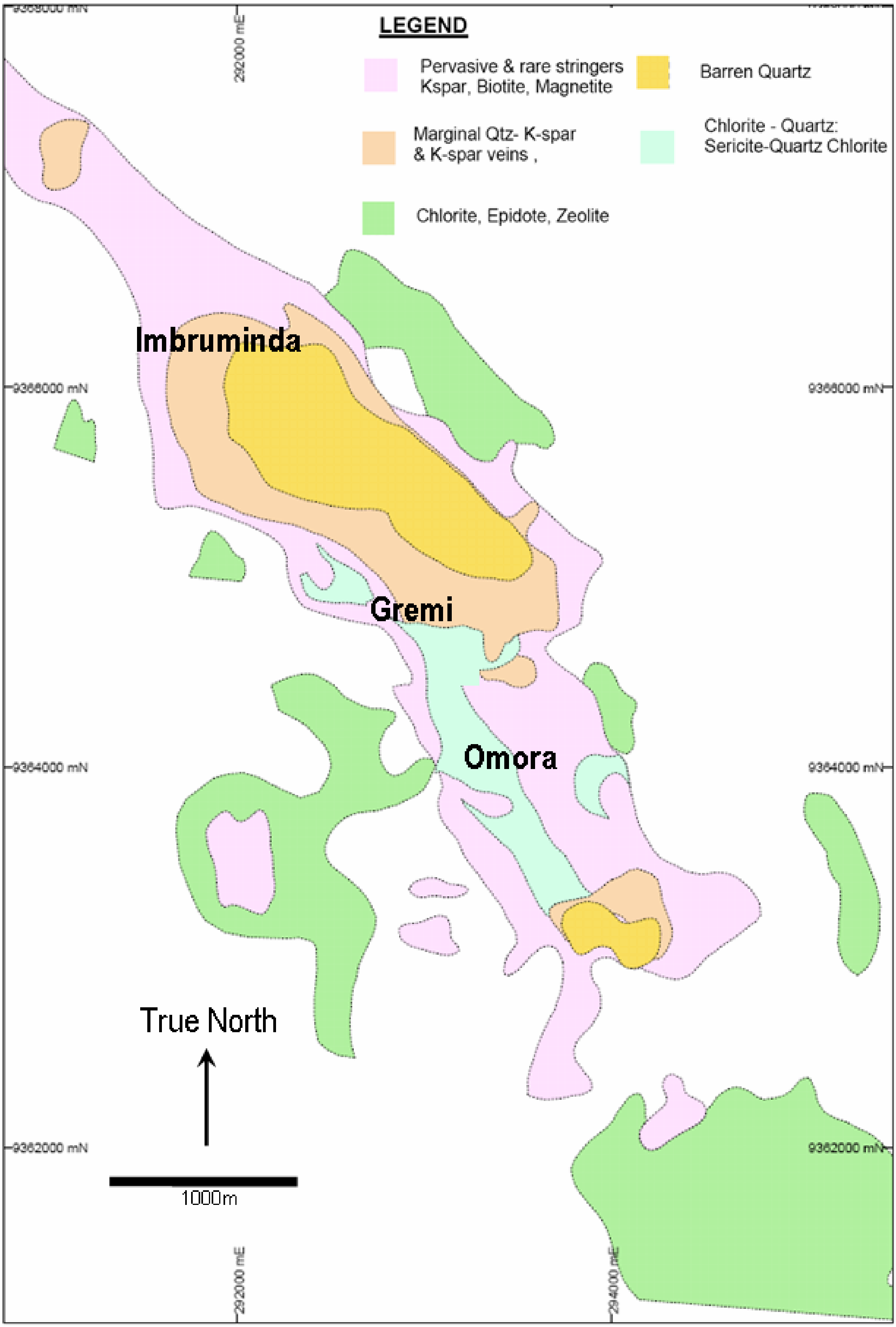


Figure 11-3: Yandera – Alteration in plan

12.0 EXPLORATION

12.1 History

BMR geologists discovered the Yandera Copper Molybdenum Projects in the late 1950s but much of the surface exploration and drilling was completed between 1965 and 1982. Between 1965 and 1969, Kennecott Exploration carried out regional sampling and mapping programs and drilled 12 diamond drill holes. Between 1973 and 1976, Broken Hill Proprietary Company Limited (BHP – now BHP Billiton Limited) pursuant to a Joint Venture with Kennecott and Triako, a further 75 diamond holes were completed and a 'non-JORC Inferred Resource' of 338 Mt at 0.42% Cu, 146 ppm Mo and 0.1 g/t Au was defined. Between 1977-1982, a further 14 shallow drill holes were completed by BHP and Kennecott, taking the total number of drill holes to 104. The 'non-JORC Inferred Resource' was upgraded to 1,143 Mt at 0.33% Cu.

These resources are based on historical data, interpretation and geological models and are no longer relevant or reliable and have been superseded by the resource estimate set out in Section 19.0.

Regional exploration programs for gold were carried out by Aquitaine Limited between 1982 and 1989. The Aquitane licence lapsed and in 1992 Highlands Gold Ltd (Highlands) was granted EL 1023 (Bundi). Between 1993 and 1994 Highlands carried out limited regional sampling and an aeromagnetic survey. A joint venture between Highlands Pacific Limited and Cyprus Amax (PNG Holdings Inc) reviewed the data in 1998 and 1999 and conducted a limited field program within the Gremi and Gamagu zones. They concluded that high grade Cu mineralisation was confined to narrow structures and dykes and the target of >100 Mt at 1.0% Cu was not attainable and the licence area was relinquished.

Belvedere Limited applied for, and was granted, EL 1335 (Yandera) in November 2003. In 2005 the tenement was farmed out to Marengo Mining (PNG) Ltd and in 2006 Belvedere Limited amalgamated with Marengo Mining (PNG) Ltd and became a 100% wholly owned subsidiary of Marengo Mining Limited.

12.2 Drilling

Marengo commenced diamond drilling in May 2006 and the program is continuing to date. The objective of the first year's drilling was to establish the geological model, confirm the mineralisation grades as indicated by the previous drilling, and produce a resource in accordance with the guidelines of the JORC Code (2004). Drilling has focused on improving the understanding of the geology and extending the extents of the defined mineralisation. Marengo, as operator, has drilled 231 diamond drill holes.

Section 13.0 summarises the results of the drilling to date.

13.0 DRILLING

Kennecott Exploration

In 1966 and 1967 Kennecott Exploration drilled nine vertical AXWL diamond holes at Gremi. In 1970 a further three NQ and BQ holes were drilled at Omora following up IP anomalies. DDH011 was vertical and DDH012 and DDH013 were at 45°. Table 13-1 summarises this drilling. The first nine holes are noted as having generally poor recovery. Drill holes DDH010-DDH012 are recorded as having excellent recovery.

Table 13-1: Kennecott Drilling

Hole Id	Depth(ft)	Depth(m)	Core Size	Drilled By	Rig
DDH001	474.5	144.65	AXWL	Sonda Drilling Co.	"a light machine"
DDH002	512.0	156.05	AXWL	Sonda Drilling Co.	"a light machine"
DDH003	445.0	135.65	AXWL	Sonda Drilling Co.	"a light machine"
DDH004A	682.0	207.85	AXWL	Sonda Drilling Co.	"a light machine"
DDH005	490.0	149.35	AXWL	Sonda Drilling Co.	"a light machine"
DDH006A	502.0	153.00	AXWL	Sonda Drilling Co.	"a light machine"
DDH007	500.0	152.40	AXWL	Sonda Drilling Co.	"a light machine"
DDH008	436.0	132.90	AXWL	Sonda Drilling Co.	"a light machine"
DDH009	479.0	146.00	AXWL	Sonda Drilling Co.	"a light machine"
DDH010	1000.0	304.80	NQ/BQ	Longyear	Longyear 38
DDH011	946.0	288.35	NQ/BQ	Longyear	Longyear 38
DDH012	1000.0	304.80	NQ/BQ	Longyear	Longyear 38

Triako/Amdex Drilling

In 1973 two holes were drilled at Omora testing the Omora Hill "target zone" by Amdex Mining, a subsidiary of Triako Mines N.L. Table 13-2 summarises the drilling. Both holes were drilled at 45° to 251° (true north).

Table 13-2: Amdex Drilling

Hole Id	Depth (m)	Core Size	Drilled By	Rig
DDH013	334.9	NQ	Austral United Geophysical	Longyear 38
DDH014	453	NQ	Austral United Geophysical	Longyear 38

BHP Drilling

In 1974 and 1975, BHP funded the drilling of 76 diamond holes as part of an arrangement with Triako Mines N.L. and Buka Minerals N.L. The work was again carried out by Amdex. Drilling was focussed on Gremi, Omora and Imbrunminda. A total of 25,268 m of NQ core was drilled by up to five drill rigs working at any one time (Longyear 38's, pers comm. J. Smit).

Between 1977 and 1982 a further 14 holes were completed by the partners, taking the total number of drill holes to 104. The holes were completed with helicopter supported Longyear 38 and 48 rigs. These mostly NQ holes were oriented in a wide variety of directions with inclinations varying from -30° to vertical. The 14 holes totalled 3782 m. No further drill sampling was undertaken until Marengo's work in 2006.

Marengo Drilling

Marengo drilled their first 19 diamond drill holes using two Drill Technics diamond drilling rigs (Table 13-3). These rigs are supplied and operated by United Pacific Drilling (UPD) of Madang, with helicopter support services supplied by Hevilift Helicopters. The two rigs, a DT650 (rig D109) and a DT450 (rig D108) are capable of drilling NQ3 sized holes to 600 m and 400 m respectively. For the remaining 73 drill holes the two original UPD rigs have been used with the addition, of 2 UPD Longyear LF70 rigs in November 2007 and January 2008, and two National Drilling (ND) ND50 rigs in February 2008. The ND rigs have been predominantly involved in sterilisation drilling (NB Mid 2008 National Drilling was taken over by UPD Philippines and renamed NatDrill Ltd.) Table 13-3 summarises the holes drilled by Marengo.

Where practicable drill holes are drilled across the general strike of the deposit towards 035° or 225° to grid north. Holes vary in inclination from -57° to vertical. Holes are drilled at HQ3 size and reduced to NQ3 only if required.

On angled holes an ORITOOL orientation tool is fitted at the top of the core barrel. The tool marks the bottom of the core.

Down hole Reflex camera survey shots are taken every 50 m.

Drilling in the New Guinea Highlands is challenging. Access is limited with most operations requiring helicopter support for the delivery of supplies and to move equipment (Figure 13-1). With no access for earthmoving equipment in the rugged terrain all drill pads are cut by hand, a time consuming operation requiring considerable forward planning (Figure 13-2).

The weather conditions also limit the drilling season to the dry part of the year. It can also hamper flight activity at any time of the year.

Figure 13-1: Helicopter Support

Figure 13-2: Typical Drill Pads

Table 13-3: Marengo Drilling

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD103	0	250	HQ3	UPD	D109
YD104	0	267.2	HQ3	UPD	D109
YD104	267.2	417.6	NQ3	UPD	D109
YD105	0	294.9	HQ3	UPD	D109
YD106	0	307	HQ3	UPD	D108
YD107	0	246.7	HQ3	UPD	D109
YD108	0	236.8	HQ3	UPD	D108
YD108	236.8	297.6	NQ3	UPD	D108
YD109	0	225	HQ3	UPD	D109
YD109	225	351.8	NQ3	UPD	D109
YD110	0	168.1	HQ3	UPD	D108
YD111	0	149.8	HQ3	UPD	D108
YD111	149.8	411.9	NQ3	UPD	D108
YD112	0	255	HQ3	UPD	D109
YD112	255	420.3	NQ3	UPD	D109
YD113	0	191.6	HQ3	UPD	D108
YD113	191.6	407.8	NQ3	UPD	D108
YD114	0	254.5	HQ3	UPD	D109
YD114	254.5	377	NQ3	UPD	D109
YD115	0	215.5	HQ3	UPD	D108
YD115	215.5	405	NQ3	UPD	D108
YD116	0	222.4	HQ3	UPD	D109
YD116	222.4	404.2	NQ3	UPD	D109
YD117	0	227.4	HQ3	UPD	D109
YD117	227.4	474.6	NQ3	UPD	D109
YD118	0	217	HQ3	UPD	D108
YD118	217	388.4	HQ3	UPD	D108
YD119	0	209.8	HQ3	UPD	D108

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD119	209.8	434.3	NQ3	UPD	D108
YD120	0	213.7	HQ3	UPD	D109
YD120	213.7	454.2	NQ3	UPD	D109
YD121	0	200	HQ3	UPD	D108
YD121	200	400	NQ3	UPD	D108
YD122	0	206.4	HQ3	UPD	D108
YD122	206.4	355.3	NQ3	UPD	D108
YD123	0	210	HQ3	UPD	D109
YD123	210	433.3	NQ3	UPD	D109
YD124	0	197.9	HQ3	UPD	D108
YD124	197.9	421.7	NQ3	UPD	D108
YD125	0	130.6	HQ3	UPD	D109
YD125	130.6	362.7	NQ3	UPD	D109
YD126	0	200.5	HQ3	UPD	D108
YD126	200.5	401.1	NQ3	UPD	D108
YD127	0	202.3	HQ3	UPD	D109
YD127	202.3	426.8	NQ3	UPD	D109
YD128	0	201	HQ3	UPD	D108
YD128	201	414.6	NQ3	UPD	D108
YD129	0	201	HQ3	UPD	D109
YD129	201	435.7	NQ3	UPD	D109
YD130	0	216.8	HQ3	UPD	D108
YD130	216.8	416.1	NQ3	UPD	D108
YD131	0	216.6	HQ3	UPD	D109
YD131	216.6	439.8	NQ3	UPD	D109
YD132	0	215.9	HQ3	UPD	D108
YD132	215.9	374.8	NQ3	UPD	D108
YD133	0	160.7	HQ3	UPD	D109
YD134	0	170.9	HQ3	UPD	D108
YD134	170.9	367.1	NQ3	UPD	D108
YD135	0	203.1	HQ3	UPD	DT600
YD135	203.1	351.5	NQ3	UPD	DT600
YD136	0	207.4	HQ3	UPD	DT450
YD136	207.4	374.8	NQ3	UPD	DT450
YD137	0	97	HQ3	UPD	DT600
YD137	97	359.9	NQ3	UPD	DT600
YD138	0	200.9	HQ3	UPD	DT450
YD138	200.9	381.3	NQ3	UPD	DT450
YD139	0	253	HQ3	UPD	LF70
YD139	253	394.7	NQ3	UPD	LF70
YD140	0	200.7	HQ3	UPD	DT450
YD140	200.7	375.9	NQ3	UPD	DT450

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD141	0	242	HQ3	UPD	LF70
YD141	242	431.7	NQ3	UPD	LF70
YD142	0	200	HQ3	UPD	DT600
YD142	200	395	NQ3	UPD	DT600
YD143	0	234	HQ3	UPD	LF70
YD143	234	400.7	NQ3	UPD	LF70
YD144	0	210.4	HQ3	UPD	DT450
YD144	210.4	394.6	HQ3	UPD	DT450
YD145	0	201	HQ3	UPD	LF70
YD145	201	417.1	HQ3	UPD	LF70
YD146	0	153.5	HQ3	UPD	DT600
YD146	153.5	169.8	NQ3	UPD	DT600
YD147	0	221.8	HQ3	UPD	LF70
YD147	221.8	333.3	NQ3	UPD	LF70
YD148	0	200.9	HQ3	UPD	DT450
YD148	200.9	368	NQ3	UPD	DT450
YD149	0	214.8	PQ3	ND	ND50
YD150	0	19.5	PQ3	ND	ND50
YD150	19.5	155.5	HQ3	ND	ND50
YD150	155.5	242.1	NQ3	ND	ND50
YD151	0	184.6	HQ3	UPD	LF70
YD151	184.6	409.1	NQ3	UPD	LF70
YD152	0	209.1	HQ3	UPD	DT600
YD152	209.1	345.6	NQ3	UPD	DT600
YD153	0	250.2	HQ3	ND	ND50
YD154	0	246.2	HQ3	UPD	LF70
YD154	246.2	347.6	NQ3	UPD	LF70
YD155	0	209.9	HQ3	UPD	LF70
YD155	209.9	392.7	NQ3	UPD	LF70
YD156	0	201	HQ3	UPD	DT450
YD156	201	379.7	NQ3	UPD	DT450
YD157	0	41	PQ3	ND	ND50
YD157	41	251.2	HQ3	ND	ND50
YD158	0	18	PQ3	ND	ND50
YD158	18	251	HQ3	ND	ND50
YD159	0	199.7	HQ3	UPD	LF70
YD160	0	6	PQ3	ND	ND50
YD160	6	250	HQ3	ND	ND50
YD161	0	206.8	HQ3	UPD	LF70
YD162	0	32.3	PQ3	ND	ND50
YD162	32.3	250.8	HQ3	ND	ND50
YD163	0	179.5	HQ3	UPD	DT450

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD163	179.5	320.7	NQ3	UPD	DT450
YD164	0	84.2	HQ3	UPD	DT600
YD165	0	215.8	HQ3	UPD	LF70
YD165	215.8	401.6	NQ3	UPD	LF70
YD166	0	167.7	HQ3	UPD	LF70
YD167	0	200	HQ3	UPD	DT450
YD168	0	1	PQ3	ND	ND50
YD168	1	199.7	HQ3	ND	ND50
YD169	0	29.3	PQ3	ND	ND50
YD169	29.3	250.3	HQ3	ND	ND50
YD170	0	187.9	HQ3	UPD	LF70
YD171	0	211.5	HQ3	UPD	DT450
YD171	211.5	402.6	NQ3	UPD	DT450
YD172	0	202.3	HQ3	UPD	DT600
YD173	0	202.8	HQ3	UPD	LF70
YD174	0	205	HQ3	UPD	LF70
YD175	0	17.3	PQ3	ND	ND50
YD175	17.3	199.3	HQ3	ND	ND50
YD176	0	25.6	PQ3	ND	ND50
YD176	25.6	203.6	HQ3	ND	ND50
YD177	0	198	HQ3	UPD	LF70
YD178	0	203.4	HQ3	UPD	DT450
YD179	0	220.9	HQ3	UPD	DT600
YD179	220.9	258.2	NQ3	UPD	DT600
YD180	0	203.1	HQ3	UPD	LF70
YD180	203.1	305.8	NQ3	UPD	LF70
YD181	0	194.5	HQ3	UPD	DT450
YD181	194.5	294.9	NQ3	UPD	DT450
YD182	0	181.6	HQ3	UPD	LF70
YD183	0	25.8	PQ3	ND	ND50
YD183	25.8	125.7	HQ3	ND	ND50
YD184	0	215.6	HQ3	UPD	DT600
YD185	0	200.7	HQ3	UPD	LF70
YD185	200.7	261.1	NQ3	UPD	LF70
YD186	0	200.6	HQ3	UPD	LF70
YD187	0	212.2	HQ3	UPD	DT600
YD188	0	203.7	HQ3	UPD	LF70
YD189	0	26.3	PQ3	ND	ND50
YD189	26.3	202	HQ3	ND	ND50
YD190	0	30.6	PQ3	ND	ND50
YD190	30.6	188.7	HQ3	ND	ND50
YD191	0	204.2	HQ3	UPD	LF70

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD191	204.2	415.3	NQ3	UPD	LF70
YD192	0	210.15	HQ3	UPD	DT600
YD193	0	119.8	HQ3	UPD	DT450
YD193	119.8	261.6	NQ3	UPD	DT450
YD194	0	215.1	HQ3	UPD	LF70
YD194	215.1	412.2	NQ3	UPD	LF70
YD195	0	99.1	HQ3	UPD	LF70
YD196	0	204.4	HQ3	UPD	DT600
YD196	204.4	375.7	NQ3	UPD	DT600
YD197	0	30.3	PQ3	ND	ND50
YD197	30.3	353.6	HQ3	ND	ND50
YD198	0	198	HQ3	UPD	DT450
YD198	198	397	NQ3	UPD	DT450
YD199	0	204.1	HQ3	UPD	LF70
YD199	204.1	451.1	NQ3	UPD	LF70
YD200	0	187.1	HQ3	UPD	LF70
YD200	187.1	407.2	NQ3	UPD	LF70
YD201	0	27	PQ3	ND	ND50
YD201	27	395.7	HQ3	ND	ND50
YD202	0	280.9	HQ3	UPD	DT450
YD202	280.9	402.6	NQ3	UPD	DT450
YD203	0	189.7	HQ3	UPD	DT600
YD203	189.7	365.7	NQ3	UPD	DT600
YD204	0	200.8	HQ3	UPD	LF70
YD204	200.8	401	NQ3	UPD	LF70
YD205	0	206.8	HQ3	UPD	LF70
YD205	206.8	398.5	NQ3	UPD	LF70
YD206	0	200.9	HQ3	UPD	LF70
YD206	200.9	347.4	NQ3	UPD	LF70
YD207	0	204	HQ3	UPD	DT450
YD207	204	402.6	NQ3	UPD	DT450
YD208	0	194.5	HQ3	UPD	DT600
YD208	194.5	402.7	NQ3	UPD	DT600
YD209	0	63	PQ3	ND	ND50
YD209	63	156.5	HQ3	ND	ND50
YD209	156.5	401.2	NQ3	ND	ND50
YD210	0	64.6	PQ3	ND	ND50
YD210	64.6	179	PQ3	ND	ND50
YD211	0	215.3	HQ3	UPD	DT450
YD211	215.3	290.7	NQ3	UPD	DT450
YD212	0	203.9	HQ3	UPD	DT450
YD212	203.9	401.2	NQ3	UPD	DT450

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD213	0	180.7	HQ3	UPD	DT600
YD213	180.7	399.7	NQ3	UPD	DT600
YD214	0	182.9	HQ3	UPD	LF70
YD214	182.9	375	NQ3	UPD	LF70
YD215	0	63.2	PQ3	ND	ND50
YD215	63.2	246	HQ3	ND	ND50
YD216	0	191.6	HQ3	UPD	LF70
YD216	191.6	400.6	NQ3	UPD	LF70
YD217	0	200.5	HQ3	UPD	DT450
YD217	200.5	393.5	NQ3	UPD	DT450
YD218	0	200	HQ3	UPD	DT600
YD218	200	396.8	NQ3	UPD	DT600
YD219	0	33.1	PQ3	ND	ND50
YD219	33.1	180	HQ3	ND	ND50
YD220	0	68.1	PQ3	ND	ND50
YD220	68.1	158.9	HQ3	ND	ND50
YD220	158.9	376	NQ3	ND	ND50
YD221	0	183	HQ3	UPD	LF70
YD222	0	202	HQ3	UPD	DT450
YD222	202	402.4	NQ3	UPD	DT450
YD223	0	178.9	HQ3	UPD	LF70
YD223	188.9	358.3	NQ3	UPD	LF70
YD224	0	195.8	HQ3	UPD	DT600
YD224	195.8	374.8	NQ3	UPD	DT600
YD225	0	13.6	PQ3	ND	ND50
YD225	13.6	188.3	HQ3	ND	ND50
YD225	188.3	339	NQ3	ND	ND50
YD226	0	2.6	PQ3	UPD	DT450
YD226	2.6	201	HQ3	UPD	DT450
YD226	201	400	NQ3	UPD	DT450
YD227	0	191.9	HQ3	UPD	LF70
YD227	191.9	391.8	NQ3	UPD	LF70
YD228	0	204.7	HQ3	UPD	DT600
YD228	204.7	361.9	NQ3	UPD	DT600
YD229	0	147.5	HQ3	UPD	DT600
YD229	147.5	339.5	NQ3	UPD	DT600
YD230	0	187.7	HQ3	UPD	DT450
YD230	187.7	308.5	NQ3	UPD	DT450
YD231	0	179.8	HQ3	UPD	LF70
YD231	179.8	300.1	NQ3	UPD	LF70
YD232	0	242.7	HQ3	ND	ND50
YD233	0	185.7	HQ3	UPD	LF70

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD233	185.7	331	NQ3	UPD	LF70
YD234	0	195.6	HQ3	UPD	DT600
YD234	195.6	292.1	NQ3	UPD	DT600
YD235	0	203.8	HQ3	UPD	LF70
YD235	203.8	377.8	NQ3	UPD	LF70
YD236	0	159.2	HQ3	UPD	DT450
YD236	159.2	306.2	NQ3	UPD	DT450
YD237	0	25.6	PQ3	ND	ND50
YD237	25.6	165	HQ3	ND	ND50
YD237	165	344.6	NQ3	ND	ND50
YD238	0	42	PQ3	ND	ND50
YD238	42	220	NQ3	ND	ND50
YD239	0	192	HQ3	UPD	DT600
YD239	192	312.6	NQ3	UPD	DT600
YD240	0	206.1	HQ3	UPD	LF70
YD240	206.1	412.8	NQ3	UPD	LF70
YD241	0	117	HQ3	UPD	DT450
YD241	117	291.9	NQ3	UPD	DT450
YD242	0	183	HQ3	UPD	LF70
YD242	183	305.5	NQ3	UPD	LF70
YD243	0	200	HQ3	UPD	LF70
YD243	200	350.5	NQ3	UPD	LF70
YD244	0	195	HQ3	UPD	LF70
YD244	195	350.8	NQ3	UPD	LF70
YD245	0	185.7	HQ3	UPD	LF70
YD245	185.7	413.7	NQ3	UPD	LF70
YD246	0	158.2	HQ3	UPD	LF70
YD246	158.2	413.1	NQ3	UPD	LF70
YD247	0	211	HQ3	UPD	LF70
YD247	211	405.4	NQ3	UPD	LF70
YD248	0	201	HQ3	UPD	LF70
YD248	201	452.6	NQ3	UPD	LF70
YD249	0	215.5	HQ3	UPD	LF70
YD249	215.5	281.5	NQ3	UPD	LF70
YD250	0	200.7	HQ3	UPD	LF70
YD250	200.7	302.7	NQ3	UPD	LF70
YD251	0	197.7	HQ3	UPD	LF70
YD251	197.7	281.6	NQ3	UPD	LF70
YD252	0	182.8	HQ3	UPD	LF70
YD252	182.8	282.7	NQ3	UPD	LF70
YD253	0	206.8	HQ3	UPD	LF70
YD253	206.8	302.4	NQ3	UPD	LF70

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD254	0	200.6	HQ3	UPD	LF70
YD254	200.6	452.4	NQ3	UPD	LF70
YD255	0	200.6	HQ3	UPD	LF70
YD255	200.6	350.2	NQ3	UPD	LF70
YD256	0	204	HQ3	UPD	LF70
YD256	204	450.3	NQ3	UPD	LF70
YD257	0	200.2	HQ3	UPD	LF70
YD257	200.2	266.2	NQ3	UPD	LF70
YD258	0	200.8	HQ3	UPD	LF70
YD258	200.8	461.7	NQ3	UPD	LF70
YD259	0	203.7	HQ3	UPD	LF70
YD259	203.7	401.3	NQ3	UPD	LF70
YD260	0	201.2	HQ3	UPD	LF70
YD260	201.2	451.8	NQ3	UPD	LF70
YD261	0	201	HQ3	UPD	LF70
YD261	201.1	443.5	NQ3	UPD	LF70
YD262	0	72.9	HQ3	UPD	LF70
YD263	0	101.7	HQ3	UPD	LF70
YD264	0	86.6	HQ3	UPD	LF70
YD265	0	101.6	HQ3	UPD	LF70
YD266	0	100.7	HQ3	UPD	LF70
YD267	0	132.5	HQ3	UPD	LF70
YD268	0	201.3	HQ3	UPD	LF70
YD268	201.3	433.7	NQ3	UPD	LF70
YD269	0	13.9	HQ3	UPD	LF70
YD270	0	217.5	HQ3	UPD	LF70
YD270	217.5	501	NQ3	UPD	LF70
YD271	0	201	HQ3	UPD	LF70
YD271	201	461.7	NQ3	UPD	LF70
YD272	0	200.8	HQ3	UPD	LF70
YD272	200.8	452.7	NQ3	UPD	LF70
YD273	0	254.9	PQ3	UPD	BOYLES
YD273	254.9	675	HQ3	UPD	BOYLES
YD273	675	983.7	NQ3	UPD	BOYLES
YD274	0	200.7	HQ3	UPD	LF70
YD274	200.7	452.5	NQ3	UPD	LF70
YD275	0	47.9	HQ3	UPD	LF70
YD276	0	152.2	HQ3	UPD	LF70
YD277	0	191.9	HQ3	UPD	LF70
YD277	191.9	432.5	NQ3	UPD	LF70
YD278	0	3	PQ3	UPD	LF70
YD278	3	176	HQ3	UPD	LF70

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD278	176	460.9	NQ3	UPD	LF70
YD279	0	198.2	HQ3	UPD	LF70
YD279	198.2	512.9	NQ3	UPD	LF70
YD280	0	50	HQ3	UPD	LF70
YD281	0	50	HQ3	UPD	LF70
YD282	0	35	HQ3	UPD	LF70
YD283	0	69.4	HQ3	UPD	LF70
YD284	0	48	HQ3	UPD	LF70
YD285	0	195.3	HQ3	UPD	LF70
YD285	195.3	501.8	NQ3	UPD	LF70
YD286	0	197.1	HQ3	UPD	LF70
YD286	197.1	400	NQ3	UPD	LF70
YD287	0	58.9	HQ3	UPD	LF70
YD288	0	80.3	HQ3	UPD	LF70
YD289	0	46.3	HQ3	UPD	LF70
YD290	0	45.1	HQ3	UPD	LF70
YD291	0	196.9	HQ3	UPD	LF70
YD291	196.9	456	NQ3	UPD	LF70
YD292	0	44.7	HQ3	UPD	LF70
YD293	0	209.6	HQ3	UPD	LF70
YD293	209.6	500.6	NQ3	UPD	LF70
YD294	0	200.2	PQ3	UPD	LF70
YD294	200.2	600	HQ3	UPD	LF70
YD294	600	1004.1	NQ3	UPD	LF70
YD295	0	140.4	HQ3	UPD	LF70
YD296	0	199.9	HQ3	UPD	LF70
YD296	199.9	501.1	NQ3	UPD	LF70
YD297	0	28.2	HQ3	UPD	LF70
YD297	28.2	201	HQ3	UPD	LF70
YD297	201	475.8	NQ3	UPD	LF70
YD298	0	201.5	HQ3	UPD	LF70
YD298	201.5	402.2	NQ3	UPD	LF70
YD299	0	110.7	HQ3	UPD	LF70
YD299	110.7	383.6	NQ3	UPD	LF70
YD300	0	192.6	HQ3	UPD	LF70
YD301	0	203.6	HQ3	UPD	LF70
YD301	203.6	563.6	NQ3	UPD	LF70
YD302	0	197.3	HQ3	UPD	LF70
YD302	197.3	389.2	NQ3	UPD	LF70
YD303	0	188.6	HQ3	UPD	LF70
YD303	188.6	500.6	NQ3	UPD	LF70
YD304	0	81	HQ3	UPD	LF70

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD305	0	207	HQ3	UPD	LF70
YD305	207	453	NQ3	UPD	LF70
YD306	0	201	HQ3	UPD	LF70
YD306	201	381.9	NQ3	UPD	LF70
YD307	0	244.5	HQ3	UPD	LF70
YD307	244.5	520.8	NQ3	UPD	LF70
YD308	0	168.8	PQ3	UPD	BOYLES
YD308	168.8	700	HQ3	UPD	BOYLES
YD308	700	971.2	NQ3	UPD	BOYLES
YD309	0	15	PQ3	UPD	LF70
YD309	15	230.7	HQ3	UPD	LF70
YD309	230.7	430.9	NQ3	UPD	LF70
YD310	0	206.6	HQ3	UPD	LF70
YD310	206.6	423	NQ3	UPD	LF70
YD311	0	201	HQ3	UPD	LF70
YD311	201	362.7	NQ3	UPD	LF70
YD312	0	196.3	HQ3	UPD	LF70
YD312	196.3	456.9	NQ3	UPD	LF70
YD313	0	201.9	HQ3	UPD	LF70
YD313	201.9	301.3	NQ3	UPD	LF70
YD314	0	201	HQ3	UPD	LF70
YD314	201	311.2	NQ3	UPD	LF70
YD315	0	176.5	HQ3	UPD	LF70
YD316	0	199.7	HQ3	UPD	LF70
YD316	199.7	239.7	NQ3	UPD	LF70
YD317	0	197.6	HQ3	UPD	LF70
YD317	197.6	368	NQ3	UPD	LF70
YD318	0	77.1	HQ3	UPD	LF70
YD319	0	201	HQ3	UPD	LF70
YD319	201	379	NQ3	UPD	LF70
YD320	0	189	HQ3	UPD	LF70
YD320	189	405.5	NQ3	UPD	LF70
YD321	0	197.1	HQ3	UPD	LF70
YD321	197.1	443.6	NQ3	UPD	LF70
YD322	0	181	HQ3	UPD	LF70
YD322	181	304.5	NQ3	UPD	LF70
YD323	0	168	PQ3	UPD	Boyles
YD323	168	600	HQ3	UPD	Boyles
YD323	600	998	NQ3	UPD	Boyles
YD324	0	197.9	HQ3	UPD	LF70
YD324	197.9	368.8	NQ3	UPD	LF70
YD325	0	184.5	HQ3	UPD	LF70

Hole ID	From (m)	To (m)	Hole Size	Drilling Contractor	Rig
YD325	184.5	439.4	NQ3	UPD	LF70
YD326	0	194.6	HQ3	UPD	LF70
YD326	194.6	440.6	NQ3	UPD	LF70
YD327	0	190	HQ3	UPD	LF70
YD327	190	470	NQ3	UPD	LF70
YD328	0	198.5	HQ3	UPD	LF70
YD328	198.5	314.5	NQ3	UPD	LF70
YD329	0	204	HQ3	UPD	LF70
YD329	204	397.5	NQ3	UPD	LF70
YD330	0	200.5	HQ3	UPD	LF70
YD330	200.5	350.6	NQ3	UPD	LF70
YD331	0	190.7	HQ3	UPD	LF70
YD331	190.7	353.4	NQ3	UPD	LF70
YD332	0	200	HQ3	UPD	LF70
YD332	200	400	NQ3	UPD	LF70
YD333	0	206.8	HQ3	UPD	LF70
YD333	206.8	400.9	NQ3	UPD	LF70

Drilling Results

The nature of a porphyry deposit is such that mineralisation is present in varying intensity throughout the altered zones. Zones of intense alteration and brecciation are generally associated with higher grade copper and colybdenum intersections. In general drill holes have been oriented to cross cut the regional and local SE-NW geological (and mineralisation) trend. Because of the mountainous conditions this is not always possible. As a result drill hole orientations have been quite variable in order to get maximum coverage across the deposit. Table 13-4 lists and Figure 13-3 illustrates the drill hole orientations over the deposit. Figure 13-4 illustrates the collar positions of the drilling used in the resource update. Drill samples are taken nominally every three metres. Within the alteration halo which has a true thickness of up to 1 km this provides adequate resolution.

345 holes have been drilled in the Yandera deposit to date. Of the 104 historical holes on record no assay data is available for DDH022A, DDH095 and DDH096. Only geological logs are available for these holes. Marengo have drilled 231 holes.

Table 13-4: Drill Hole Orientations

Hole ID	Collar Azimuth	Collar Dip	Hole Depth (m)
DDH001	360	-90	144.65
DDH002	360	-90	156.05
DDH003	360	-90	135.65
DDH004A	360	-90	207.85
DDH005	360	-90	149.35
DDH006A	360	-90	153
DDH007	360	-90	152.4
DDH008	360	-90	132.9
DDH009	360	-90	146
DDH010	360	-90	304.8
DDH011	308	-45	288.35
DDH012	235	-45	304.8
DDH013	250	-45	334.9
DDH014	225	-49	453
DDH015	360	-90	59.45
DDH016	360	-60	279.15
DDH017	270	-45	285.25
DDH018	118	-45	468.64
DDH019	280	-40	527
DDH020	260	-66	417.1
DDH021	170	-60	465
DDH022	13	-40	233.64
DDH022A	14	-38	50
DDH023	104	-40	334.67
DDH024	304	-80	402.33
DDH025	285	-45	403.54
DDH026	345	-40	348.4
DDH027	103	-64	398.14
DDH028	33	-45	432
DDH029	352	-40	321.67

Hole ID	Collar Azimuth	Collar Dip	Hole Depth (m)
DDH030	56	-56	202.02
DDH031	346	-40	288.7
DDH032	292	-40	105.3
DDH033	180	-40	173.3
DDH034	29	-50	567.05
DDH035	25	-55	532.9
DDH036	32	-66	570
DDH037	30	-55	443.05
DDH038	35	-35	446.2
DDH039	55	-50	327.6
DDH040	28	-58	457.1
DDH041	260	-70	201.2
DDH042	35	-45	627.33
DDH043	84	-45	332.96
DDH044	80	-65	413.5
DDH045	245	-30	627.08
DDH046	40	-40	611.8
DDH047	220	-52	250
DDH048	105	-50	545.3
DDH049	0	-45	328.09
DDH050	29	-40	356.4
DDH051	225	-50	256.3
DDH052	290	-40	383.24
DDH053	180	-60	367.27
DDH054	355	-45	417
DDH055	5	-50	248.86
DDH056	80	-45	181.11
DDH057	26	-63	358.6
DDH058	247	-35	424.56
DDH059	240	-40	302.9
DDH060	225	-55	613.25
DDH061	235	-40	437.9
DDH062	240	-40	364.8
DDH063	90	-60	271.88
DDH064	295	-40	262.7
DDH065	180	-40	515.6
DDH066	285	-50	467.76
DDH067	180	-60	509.36
DDH068	100	-60	310.05
DDH069	10	-50	395.1
DDH070	195	-68	510.52
DDH071	20	-50	230.66

Hole ID	Collar Azimuth	Collar Dip	Hole Depth (m)
DDH072	215	-65	514.95
DDH073	10	-50	200.2
DDH074	105	-75	250.2
DDH075	50	-60	301.95
DDH076	10	-55	256.84
DDH077	360	-90	300.2
DDH078	360	-90	235.8
DDH079	360	-90	370
DDH080	360	-90	227.25
DDH081	360	-90	250.65
DDH082	360	-90	199.1
DDH083	360	-90	200.3
DDH084	360	-90	206.85
DDH085	360	-90	201.6
DDH086	360	-90	191
DDH087	360	-90	200.5
DDH088	360	-90	200.05
DDH089	360	-90	250
DDH090	360	-90	152
DDH091	45	-50	170.4
DDH092	225	-60	128.25
DDH093	229	-50	162
DDH094	180	-50	303.37
DDH095	180	-50	219.6
DDH096	180	-50	300
DDH097	360	-90	177
DDH098	360	-90	115.5
DDH098A	154	-88	260.8
DDH099	360	-90	521.67
DDH100	360	-90	434.6
DDH101	360	-90	415.4
DDH102	360	-90	574
KD001	222.4	-58.6	404.7
KD002	220	-60.6	411
KD003	44.9	-68.4	344.2
KD004	25	-50	401.8
KD005	125.7	-63.6	398.7
KD006	119.5	-63	400.6
KD007	200	-60	252
KD008	180.3	-62.5	366.2
KD009	140	-60	375.2
KD010	29.8	-52.9	311.8

Hole ID	Collar Azimuth	Collar Dip	Hole Depth (m)
YD103	35.1	-64.2	250
YD104	30	-60	417.6
YD105	28.4	-63.4	294.9
YD106	30	-60	307.5
YD107	209.4	-89.5	246.7
YD108	20	-60	297.6
YD109	28.9	-80.5	351.8
YD110	30	-60	168.1
YD111	27.6	-58	411.9
YD112	22	-60	420.3
YD113	24	-64.7	407.8
YD114	30	-60	423.9
YD115	27.4	-62.4	405
YD116	122.2	-85.6	404.2
YD117	321.8	-89.6	474.6
YD118	250.8	-88.3	388.4
YD119	236.7	-80.9	434.3
YD120	233.7	-69.9	454.2
YD121	62.4	-69.8	400
YD122	28.7	-68.4	355.3
YD123	26.5	-62.5	433.3
YD124	36.1	-61.7	421.7
YD125	132.3	-61.7	362.7
YD126	28.7	-62.2	401.1
YD127	204.7	-58.8	426.8
YD128	205.3	-63.1	414.6
YD129	28.6	-63.3	435.7
YD130	30.4	-62.7	416.1
YD131	25.1	-63.9	439.8
YD132	25.2	-66.2	374.8
YD133	30	-60	160.7
YD134	30.2	-62.1	367.1
YD135	229.9	-62.8	351.5
YD136	29.8	-65.8	374.8
YD137	32.2	-61.2	359.9
YD138	205.8	-65.5	381.3
YD139	28.5	-64.5	394.7
YD140	213.6	-65.6	375.9
YD141	32.6	-56.2	431.7
YD142	175.7	-62.1	395
YD143	32.3	-60.7	400.7
YD144	31.5	-62.2	394.6

Hole ID	Collar Azimuth	Collar Dip	Hole Depth (m)
YD145	307.6	-88.9	417.1
YD146	213.8	-61.6	169.8
YD147	207.9	-61.2	333.3
YD148	32.2	-61.4	368
YD149	0	-90	214.8
YD150	0	-90	242.1
YD151	212.8	-57.4	409.1
YD152	28.3	-60.7	345.6
YD153	0	-90	250.2
YD154	32.1	-60.2	347.6
YD155	33.4	-62.5	392.7
YD156	31.6	-62.5	379.7
YD157	0	-90	251.2
YD158	0	-90	251
YD159	305.5	-53.6	199.7
YD160	0	-90	250
YD161	127	-70	206.8
YD162	0	-90	250.8
YD163	31.7	-58.3	320.7
YD164	30	-60	84.2
YD165	32.7	-68.2	401.6
YD166	311.1	-61.8	167.7
YD167	301.9	-64.6	200
YD168	0	-90	199.7
YD169	0	-90	250.3
YD170	127	-60	187.9
YD171	309.6	-57	402.6
YD172	300.7	-62	202.3
YD173	0	-90	202.8
YD174	305	-60	205
YD175	0	-90	199.3
YD176	0	-90	203.6
YD177	0	-90	198
YD178	305	-60	203.4
YD179	305	-60	258.2
YD180	0	-90	305.8
YD181	195.7	-57.1	317.4
YD182	308.6	-61.2	181.6
YD183	0	-90	125.7
YD184	304.8	-59.9	215.6
YD185	169.3	-64	261.1
YD186	127	-60	200.6

Hole ID	Collar Azimuth	Collar Dip	Hole Depth (m)
YD187	300.5	-60.6	212.2
YD188	302.6	-63.7	203.7
YD189	0	-90	202
YD190	0	-90	188.7
YD191	32.7	-59.6	415.3
YD192	306.5	-60.3	210.15
YD193	223	-55.5	261.6
YD194	218	-59.4	412.2
YD195	0	-90	99.1
YD196	217.8	-60.3	375.7
YD197	210	-60	353.6
YD198	211.7	-52.7	397
YD199	27.9	-57.6	451.1
YD200	210	-60	407.2
YD201	280	-60	395.7
YD202	209.7	-58.3	402.6
YD203	210.4	-60	365.7
YD204	33.1	-61.6	401
YD205	210	-60	398.5
YD206	30	-60	347.4
YD207	28.2	-61.1	402.6
YD208	211.8	-60.1	402.7
YD209	310	-70	401.2
YD210	310	-50	179
YD211	212	-60.8	290.7
YD212	29.5	-62.9	401.2
YD213	214.1	-59.4	399.7
YD214	210.6	-60.5	375
YD215	210	-60	246
YD216	30	-60	400.6
YD217	38.6	-69.2	393.5
YD218	34.6	-56.7	396.8
YD219	270	-50	180
YD220	30	-50	376
YD221	22.7	-59.9	183
YD222	30.3	-63.6	402.4
YD223	30	-60	358.3
YD224	213.1	-57.8	374.8
YD225	290	-50	339
YD226	218.6	-61.3	400
YD227	31.2	-59.5	391.8
YD228	37.1	-69	361.9

Hole ID	Collar Azimuth	Collar Dip	Hole Depth (m)
YD229	32.1	-61.4	339.5
YD230	216.6	-89.7	308.5
YD231	214.7	-51.1	300.1
YD232	120	-50	242.7
YD233	145.1	-89.8	331
YD234	0	-90	292.1
YD235	174	-87.7	377.8
YD236	0	-90	306.2
YD237	270	-50	344.6
YD238	40	-50	220
YD239	189.4	-89.4	312.6
YD240	210.5	-55.5	412.8
YD241	30.7	-60.7	291.9
YD242	8.3	-88.7	305.5
YD243	222.3	-58.2	350.5
YD244	219	-61.1	350.8
YD245	192	-64.7	413.7
YD246	221.7	-64.4	413.1
YD247	215	-70	405.4
YD248	223.6	-73.4	452.6
YD249	40	-65	281.5
YD250	278.5	-63.8	302.7
YD251	225	-65	281.6
YD252	45.4	-68.1	282.7
YD253	192.8	-61.1	302.4
YD254	92.6	-54.5	452.4
YD255	270	-55	350.2
YD256	40	-50	450.3
YD257	41.3	-74.3	266.2
YD258	216	-63.4	461.7
YD259	211.8	-73.4	401.3
YD260	225.9	-66.7	451.8
YD261	74.4	-68.9	443.5
YD262	221	-60	72.9
YD263	260	-60	101.7
YD264	53	-60	86.6
YD265	135	-60	101.6
YD266	225	-60	100.7
YD267	225.4	-63.7	132.5
YD268	225.4	-62.5	433.7
YD269	85	-65	13.9
YD270	45	-70	501

Hole ID	Collar Azimuth	Collar Dip	Hole Depth (m)
YD271	58	-70.5	461.7
YD272	54.4	-69.3	452.7
YD273	318.8	-89.2	983.7
YD274	224.1	-73.4	452.5
YD275	225	-65	47.9
YD276	45	-65	152.2
YD277	46.1	-70.7	432.5
YD278	55.9	-73	460.9
YD279	229.1	-71.8	512.9
YD280	90	-60	50
YD281	90	-60	50
YD282	0	-70	35
YD283	180	-60	69.4
YD284	0	-90	48
YD285	212.3	-61.6	503.5
YD286	30	-50	400
YD287	180	-60	58.9
YD288	180	-60	80.3
YD289	0	-90	46.3
YD290	0	-90	45.1
YD291	210	-72.3	456.6
YD292	210	-60	47.5
YD293	33.3	-70.1	500.6
YD294	0	-87.8	1004.1
YD295	29	-61.7	140.4
YD296	39	-75	501.1
YD297	28.4	-70.8	475.8
YD298	30	-60	402.2
YD299	224.5	-71.8	383.6
YD300	210	-70	192.6
YD301	221.8	-68.4	563.6
YD302	210	-70	389.2
YD303	36.1	-62.6	500.6
YD304	210	-65	81
YD305	208	-69.8	453
YD306	33.8	-49.5	381.9
YD307	53.9	-75	520.8
YD308	32.1	-89.3	971.2
YD309	27.4	-72.2	430.9
YD310	30	-70	423
YD311	31.1	-61.6	362.7
YD312	30	-70	456.9

Hole ID	Collar Azimuth	Collar Dip	Hole Depth (m)
YD313	30	-70	400
YD314	30.7	-70	311.2
YD315	30	-45	176.5
YD316	210	-70	239.7
YD317	216.5	-69.2	368
YD318	210	-50	77.1
YD319	210	-60	379
YD320	210.9	-56.1	407.6
YD321	30	-50	443.6
YD322	207.6	-52.9	304.5
YD323	230.7	-88.6	998
YD324	40	-60	368.8
YD325	210	-50	439.4
YD326	30	-65	440.6
YD327	30	-51.7	470.6
YD328	213	-50	314.5
YD329	210.9	-63.7	397.5
YD330	30	-55	350.6
YD331	32.1	-53.8	356.4
YD332	30	-50	400
YD333	221.1	-56.4	400.9

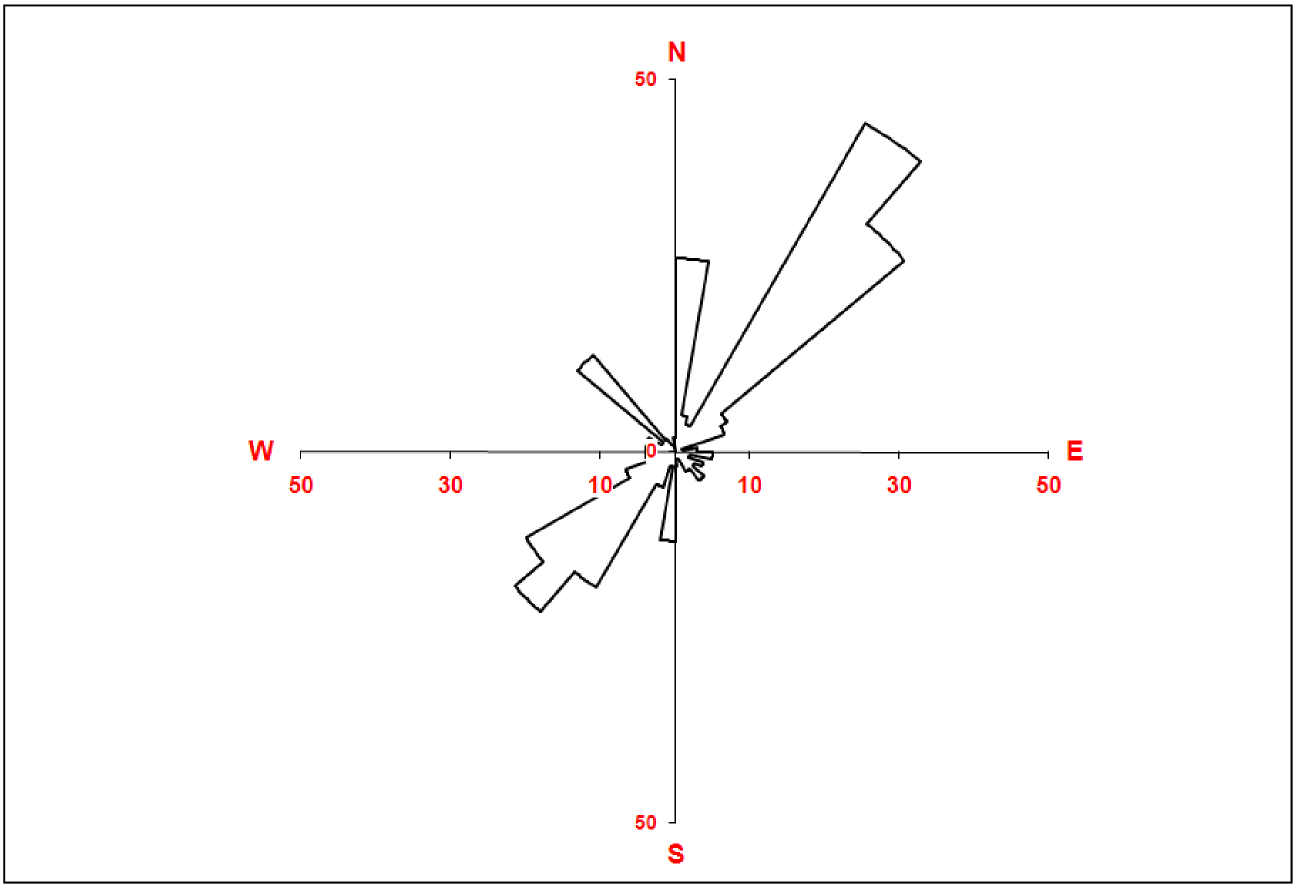


Figure 13-3: Drilling Orientation Proportions

Table 13-5 summarises the assay results from all drill holes with assays for Cu.

Table 13-5: Drilling Results Summary (nb ppm ≡ g/t)

Hole ID		Cu ppm			Mo ppm			Au ppm			Ag ppm		
	Avg length	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
DDH001	3.1	1000	68500	6333	60	1000	417	-	-	-	-	-	-
DDH002	2.8	500	8500	1437	60	480	125	-	-	-	-	-	-
DDH003	4.7	500	1500	568	60	1500	445	-	-	-	-	-	-
DDH004A	3.1	200	4300	891	10	900	245	-	-	-	-	-	-
DDH005	3.1	100	2900	886	100	100	100	-	-	-	-	-	-
DDH006A	2.9	300	4800	1325	10	300	60	-	-	-	-	-	-
DDH007	2.9	200	4400	1391	10	300	107	-	-	-	-	-	-
DDH008	3.0	100	20000	3289	20	1400	150	-	-	-	0.6	0.6	0.6
DDH009	3.2	100	1100	331	10	10	10	-	-	-	-	-	-
DDH010	2.7	60	7100	1187	10	200	14	-	-	-	-	-	-
DDH011	2.7	30	24900	2660	10	40	19	-	-	-	-	-	-
DDH012	2.9	80	3330	672	10	90	41	-	-	-	-	-	-
DDH013	2.7	150	49000	3587	1	20000	475	0.0	0.4	0.1	0.1	19.5	2.4
DDH014	3.0	550	32500	3956	2	790	56	0.0	5.1	0.2	0.1	44.0	2.4
DDH015	2.8	1400	9900	5035	6	96	35	0.0	0.4	0.1	1.5	16.0	6.5
DDH016	2.9	30	5550	1357	2	680	50	0.0	0.3	0.0	0.1	5.6	1.2

Hole ID		Cu ppm			Mo ppm			Au ppm			Ag ppm		
	Avg length	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
DDH017	2.9	75	6400	1144	2	104	14	0.0	0.2	0.0	0.1	5.1	0.9
DDH018	3.0	920	18100	6513	5	1550	208	0.0	1.3	0.2	0.2	6.5	1.5
DDH019	3.0	70	6500	1373	2	108	21	0.0	0.3	0.0	0.1	4.1	1.0
DDH020	3.0	160	49500	4773	2	2300	146	0.0	1.3	0.1	0.1	8.5	1.7
DDH021	3.0	120	11500	1950	5	300	39	0.1	1.1	0.2	0.0	5.9	1.2
DDH022	3.0	50	12750	1129	1.2	32	10	0.0	0.7	0.1	0.2	5.1	1.2
DDH023	3.0	40	5360	1154	2.3	190	23	0.1	0.3	0.1	0.1	6.2	0.7
DDH024	3.0	910	18400	5325	2.7	2830	116	0.1	0.9	0.1	0.1	10.4	1.6
DDH025	2.7	170	5900	1423	10	170	27	0.0	0.0	0.0	0.1	6.7	0.8
DDH026	2.6	40	10100	2096	1.2	227	28	0.1	0.9	0.3	0.0	67.2	2.4
DDH027	2.7	100	16500	3857	20	1710	208	0.0	0.7	0.1	0.0	8.8	1.6
DDH028	2.8	30	31900	3149	20	1300	148	0.1	0.2	0.1	0.0	7.9	1.3
DDH029	2.6	90	10500	2174	10	850	109	0.0	0.5	0.2	0.1	8.2	1.0
DDH030	2.0	210	9000	2749	20	130	36	0.1	0.5	0.2	0.2	8.7	1.5
DDH031	2.6	210	9500	2373	20	520	93	0.1	0.4	0.2	0.0	8.0	1.1
DDH032	2.6	260	2470	850	20	60	45	-	-	-	0.1	6.9	1.0
DDH033	2.5	60	3220	549	20	300	49	0.1	0.5	0.2	0.0	1.4	0.2
DDH034	3.0	220	18200	2424	2.9	825	66	0.0	0.3	0.1	0.1	8.5	1.1
DDH035	3.0	540	15500	2479	1.3	1500	129	0.0	0.4	0.1	0.2	5.5	1.0
DDH036	3.1	170	10200	1237	0.9	990	50	0.0	0.3	0.1	0.1	7.4	1.0
DDH037	3.0	50	14700	1348	3.9	461	92	0.0	0.2	0.1	0.0	8.3	0.7
DDH038	3.0	40	17200	3336	9	1890	126	0.0	0.8	0.1	0.1	13.4	1.5
DDH039	3.0	190	14400	3752	4	1260	130	0.1	0.7	0.1	0.3	12.7	2.8
DDH040	3.0	50	4500	1030	10	245	39	0.0	0.0	0.0	0.1	5.8	0.9
DDH041	3.0	30	4460	931	10	31	15	0.1	0.1	0.1	0.1	3.0	0.7
DDH042	3.0	50	9200	1592	10	163	39	0.0	0.1	0.0	0.1	4.6	1.0
DDH043	3.0	60	6190	1372	10	153	35	0.1	1.7	0.3	0.1	120.0	2.3
DDH044	3.0	390	9990	2812	10	526	75	0.0	0.6	0.1	0.2	2.2	0.5
DDH045	3.0	80	5320	985	10	597	65	0.1	0.1	0.1	0.1	4.8	0.7
DDH046	3.0	90	12400	2152	10	500	69	0.1	0.1	0.1	0.1	8.7	1.4
DDH047	3.0	170	5250	1368	10	215	42	0.1	0.1	0.1	0.1	4.3	1.1
DDH048	3.0	190	12400	2228	10	4600	160	0.1	0.8	0.2	0.1	5.4	0.7
DDH049	3.0	70	5200	1277	10	255	61	0.1	0.1	0.1	0.1	4.7	0.8
DDH050	3.0	60	10400	1282	10	380	62	0.0	0.1	0.0	0.1	3.4	0.6
DDH051	3.0	350	6900	2033	10	635	53	0.1	1.6	0.2	0.2	4.1	0.8
DDH052	3.0	140	9700	1187	10	308	56	0.0	1.1	0.1	0.1	7.2	0.6
DDH053	3.0	430	32500	3832	10	6500	452	0.0	0.6	0.1	0.3	12.8	2.0
DDH054	3.0	200	22200	3455	5	2300	129	0.0	0.5	0.1	0.1	8.5	1.1
DDH055	3.0	70	15800	3448	8	1890	263	0.0	0.5	0.1	0.1	12.6	1.5
DDH056	3.0	600	23500	2459	11	2250	105	0.0	3.6	0.2	0.1	52.6	1.6
DDH057	3.0	90	5650	1021	8	61	22	0.0	0.1	0.0	0.1	6.9	1.1
DDH058	3.0	650	29000	3215	10	880	118	0.0	0.4	0.1	0.2	14.6	1.3
DDH059	3.0	720	12400	4181	10	528	62	0.0	0.5	0.1	0.2	7.7	1.3
DDH060	3.0	110	19000	2711	10	3600	112	0.0	0.2	0.0	0.0	10.8	1.5

Hole ID		Cu ppm			Mo ppm			Au ppm			Ag ppm		
	Avg length	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
DDH061	3.0	130	22500	2113	10	355	46	0.0	0.6	0.1	0.2	6.6	0.7
DDH062	3.0	220	13600	2883	10	1550	144	0.0	0.5	0.1	0.1	9.8	1.0
DDH063	3.0	50	7200	1335	10	1300	51	0.0	0.7	0.1	0.1	3.9	0.5
DDH064	3.0	370	16500	3112	10	223	48	0.0	0.2	0.1	0.1	9.5	1.5
DDH065	3.0	50	27500	2058	10	316	45	0.0	0.1	0.0	0.1	17.5	1.4
DDH066	3.0	260	11500	3093	10	1260	91	0.0	0.5	0.1	0.1	5.0	0.9
DDH067	3.0	160	6600	1696	10	1000	67	0.0	2.0	0.1	0.1	7.8	1.0
DDH068	3.0	30	4580	1303	10	370	58	0.0	0.4	0.1	0.1	3.1	0.5
DDH069	3.0	90	13600	2171	10	238	38	0.0	0.1	0.0	0.1	5.9	0.8
DDH070	3.0	250	23500	4153	10	528	90	0.0	0.6	0.1	0.1	11.6	1.3
DDH071	3.0	70	8200	1453	10	156	29	0.0	0.1	0.1	0.1	2.0	0.6
DDH072	3.0	90	7150	1652	10	352	31	0.0	0.6	0.1	0.1	6.2	1.2
DDH073	3.0	70	14800	3031	10	590	101	0.0	0.2	0.1	0.3	13.4	2.2
DDH074	3.0	80	2330	394	10	282	52	0.0	0.1	0.0	0.1	0.5	0.2
DDH075	3.0	180	5480	1292	10	384	82	0.0	0.3	0.1	0.1	13.9	1.6
DDH076	3.0	30	7700	2783	16	2720	257	0.0	0.4	0.1	0.1	15.4	1.5
DDH077	3.0	310	11100	2390	11	900	99	0.0	0.9	0.1	0.1	3.7	0.7
DDH078	3.0	250	18200	4230	10	940	74	0.0	0.8	0.1	0.1	13.2	2.1
DDH079	3.0	80	21800	3519	10	1070	190	0.0	0.9	0.2	0.1	4.4	1.0
DDH080	3.0	200	17400	2819	10	1500	221	0.0	0.5	0.1	0.3	18.0	1.8
DDH081	3.0	200	5550	2159	10	1620	112	0.1	0.6	0.2	0.1	7.1	1.2
DDH082	3.0	420	4860	1700	10	210	37	0.0	0.2	0.1	0.1	1.9	0.4
DDH083	3.0	560	8180	2596	12	365	83	0.1	0.2	0.1	0.2	2.1	0.8
DDH084	3.0	20	3500	1586	10	136	38	0.1	0.1	0.1	0.1	1.0	0.4
DDH085	3.0	440	16500	2813	10	330	41	0.1	0.8	0.1	0.1	8.0	0.9
DDH086	3.0	175	3200	1185	12	153	42	0.1	0.2	0.1	0.1	2.6	0.6
DDH087	3.0	20	6000	749	10	280	43	0.1	0.1	0.1	0.1	15.1	1.7
DDH088	3.0	270	8500	2656	10	1560	124	0.1	0.1	0.1	0.5	4.3	1.8
DDH089	3.0	210	3240	990	10	10	10	0.1	0.3	0.1	0.1	1.2	0.3
DDH090	3.0	130	4500	1317	10	94	23	0.1	0.1	0.1	0.1	10.2	2.2
DDH091	3.0	128	1720	313	13	137	37	0.0	0.8	0.2	0.1	1.3	0.2
DDH092	3.0	50	2010	605	12	72	22	0.0	0.3	0.1	0.4	1.6	0.6
DDH093	3.0	280	4020	1428	13	45	20	-	-	-	0.6	2.5	1.2
DDH094	3.0	40	5700	1013	10	302	39	0.1	0.1	0.1	0.1	5.9	0.7
DDH097	3.0	85	1800	702	7	25	14	-	-	-	0.5	1.7	1.1
DDH098	3.0	240	6300	1726	2	29	13	0.1	0.1	0.1	0.1	6.7	1.6
DDH098A	3.0	75	8300	1111	1	337	25	0.1	0.1	0.1	0.1	1.9	0.5
DDH099	3.0	110	20000	2015	9	2500	249	0.1	1.5	0.1	0.1	12.2	0.8
DDH100	3.0	280	28000	3824	2	930	77	0.0	0.9	0.2	1.0	8.0	1.7
DDH101	3.0	45	1550	357	4	88	18	0.0	0.1	0.0	-	-	-
DDH102	3.0	27	24500	2029	4	74	17	0.0	0.2	0.0	1.0	8.0	4.3
KD001	3.1	3	634	65	1	31	2	0.0	0.0	0.0	0.5	24.1	0.9
KD002	3.0	9	4330	200	1	22	2	0.0	0.0	0.0	0.5	3.3	0.9
KD003	3.1	2	617	98	1	4	2	0.0	0.1	0.0	0.5	1.2	0.7

Hole ID		Cu ppm			Mo ppm			Au ppm			Ag ppm		
	Avg length	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
KD004	3.1	2	4620	269	1	311	26	0.0	0.0	0.0	0.5	3.7	1.0
KD005	3.1	8	860	149	1	128	5	0.0	0.0	0.0	0.5	0.7	0.6
KD006	3.0	54	3810	618	1	296	18	0.0	0.0	0.0	0.5	3.3	0.9
KD007	3.0	9	262	92	1	1	1	0.0	0.0	0.0	0.5	2.6	0.7
KD008	3.0	5	1880	160	1	70	6	0.0	0.1	0.0	0.5	0.9	0.6
KD009	3.0	10	117	45	1	24	2	0.0	0.0	0.0	0.5	2.0	1.1
KD010	3.1	15	1430	114	1	8	2	0.0	0.0	0.0	0.5	2.5	0.8
YD103	3.0	154	9570	3143	1	866	77	0.0	0.7	0.1	0.5	3.7	1.3
YD104	3.0	17	22200	2991	2	5890	269	0.0	0.7	0.1	0.5	9.5	1.5
YD105	3.0	16	10600	2389	3	1170	190	0.0	0.7	0.1	0.5	6.8	1.4
YD106	3.0	60	23500	3297	2	822	175	0.0	0.7	0.1	0.5	12.2	2.2
YD107	3.0	1050	28700	8119	5	5540	519	0.0	1.6	0.2	0.5	20.8	2.9
YD108	3.1	13	9360	1341	1	426	33	0.0	0.2	0.1	0.5	8.6	1.8
YD109	3.0	478	40400	4736	1	1460	157	0.0	0.7	0.1	0.5	17.8	2.4
YD110	3.1	46	4570	463	1	77	13	0.0	0.1	0.0	0.5	5.2	1.2
YD111	3.0	16	25300	4494	1	1740	184	0.0	1.2	0.1	0.5	14.7	2.5
YD112	3.0	35	8520	1098	1	311	33	0.0	0.3	0.1	0.5	5.1	0.9
YD113	3.0	63	23000	3276	1	2208	160	0.0	0.6	0.1	0.5	18.4	1.9
YD114	3.0	7	8684	790	1	257	21	0.0	1.0	0.1	0.5	11.1	1.4
YD115	3.1	29	6050	1030	4	357	50	0.0	0.4	0.1	0.5	5.3	1.1
YD116	3.0	247	13100	3155	1	572	57	0.0	0.5	0.1	0.5	5.6	1.3
YD117	3.0	42	8890	1439	1	4980	254	0.0	0.9	0.1	0.5	3.5	1.2
YD118	3.0	292	14700	1833	1	1420	129	0.0	0.7	0.1	0.5	5.3	1.1
YD119	3.0	144	19600	2629	2	350	44	0.0	0.1	0.0	0.5	25.2	5.0
YD120	3.0	60	10800	1383	1	1710	109	0.0	6.1	0.2	0.5	9.9	1.6
YD121	3.0	135	24900	2689	1	695	36	0.0	0.1	0.0	0.5	53.4	3.4
YD122	3.0	101	4880	605	1	68	6	0.0	0.1	0.0	0.5	30.8	2.1
YD123	3.0	21	17600	2151	1	558	48	0.0	0.3	0.0	0.5	16.3	2.1
YD124	3.0	64	14700	2413	1	1670	66	0.0	0.5	0.0	0.5	11.7	2.4
YD125	3.0	148	13500	1765	1	423	66	0.0	0.1	0.0	0.5	17.7	1.8
YD126	3.0	156	7230	883	1	358	15	0.0	0.1	0.0	0.5	5.2	1.2
YD127	3.1	128	46300	4000	2	706	159	0.0	0.3	0.0	0.5	11.4	2.6
YD128	3.0	62	24000	1590	1	365	34	0.0	0.3	0.0	0.5	9.9	1.6
YD129	3.1	179	4140	1067	1	421	21	0.0	0.1	0.0	0.5	4.8	1.2
YD130	3.0	314	17500	2182	1	793	48	0.0	0.3	0.0	0.5	6.9	1.2
YD131	3.0	45	2960	851	1	470	25	0.0	0.1	0.0	0.5	8.9	1.4
YD132	3.0	16	10700	1314	1	870	61	0.0	0.4	0.0	0.5	4.2	1.1
YD133	2.9	158	9440	1667	1	26	5	0.0	0.1	0.0	0.5	10.7	2.7
YD134	3.0	48	12800	1856	1	255	36	0.0	0.3	0.0	0.5	4.2	0.9
YD135	3.1	470	51000	4844	1	455	72	0.0	0.7	0.1	0.6	16.4	2.8
YD136	3.0	203	19500	2297	1	1430	107	0.0	0.5	0.1	0.5	6.7	1.2
YD137	3.0	84	8840	1100	1	94	13	0.0	0.1	0.0	0.5	9.0	1.4
YD138	3.0	221	39800	4059	3	662	75	0.0	1.5	0.1	0.5	11.3	1.9
YD139	3.0	9	12300	2512	1	771	61	0.0	0.7	0.1	0.5	9.2	1.9

Hole ID		Cu ppm			Mo ppm			Au ppm			Ag ppm		
	Avg length	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
YD140	3.1	332	19900	2671	2	243	25	0.0	0.3	0.0	0.5	11.0	1.8
YD141	3.0	18	10200	2270	1	1190	127	0.0	0.7	0.1	0.5	6.1	1.5
YD142	3.0	84	19300	2191	1	374	57	0.0	0.1	0.0	0.5	21.3	1.8
YD143	3.0	34	7780	1112	1	300	38	0.0	0.2	0.0	0.5	4.1	0.9
YD144	3.0	21	7460	1110	1	467	47	0.0	0.5	0.0	0.5	4.8	1.2
YD145	3.0	16	8210	1988	1	343	61	0.0	0.2	0.0	0.5	2.3	0.9
YD146	3.0	332	7970	1285	1	45	10	0.0	0.4	0.0	0.5	9.9	1.4
YD147	3.0	4	10800	2248	1	1490	100	0.0	0.5	0.0	0.5	3.1	0.9
YD148	3.0	69	82800	4822	1	748	38	0.0	0.9	0.1	0.7	38.2	3.0
YD149	3.0	19	4610	534	1	1020	45	0.0	0.3	0.0	0.5	11.7	1.4
YD150	3.0	3	602	129	1	56	9	0.0	0.0	0.0	0.5	1.5	0.7
YD151	3.0	78	14800	1605	1	1030	116	0.0	0.4	0.1	0.5	11.5	1.1
YD152	3.0	99	7770	1067	1	244	24	0.0	0.1	0.0	0.5	8.9	1.5
YD153	3.0	12	2430	333	1	143	13	0.0	0.1	0.0	0.5	2.2	0.8
YD154	3.0	101	10700	2351	7	197	45	0.0	0.6	0.0	0.5	4.7	1.1
YD155	3.0	124	3580	1015	1	643	56	0.0	0.1	0.0	0.5	18.4	1.9
YD156	3.0	83	31600	1871	1	445	36	0.0	0.1	0.0	0.5	22.2	1.6
YD157	3.0	63	12000	1462	1	176	32	0.0	0.1	0.0	0.5	11.5	1.8
YD158	3.0	7	5860	902	1	397	23	0.0	0.2	0.0	0.5	10.4	1.4
YD159	3.0	844	10800	3084	4	1360	315	0.0	0.8	0.2	0.5	14.0	2.0
YD161	3.0	1150	29300	5278	3	2000	350	0.0	1.3	0.2	0.5	10.4	2.1
YD163	3.0	9	3060	255	1	16	2	0.0	0.2	0.0	0.5	3.7	1.0
YD164	3.0	218	2980	905	1	61	9	0.0	0.0	0.0	0.7	5.3	1.6
YD165	3.0	129	6830	1293	1	566	23	0.0	0.1	0.0	0.5	8.7	1.7
YD166	3.0	344	7030	1954	15	393	92	0.0	0.5	0.1	0.5	5.4	1.2
YD167	3.0	235	23400	4326	1	459	67	0.0	0.1	0.0	0.6	23.2	6.4
YD170	3.1	794	9800	3693	21	1500	245	0.0	1.4	0.2	0.5	4.9	1.7
YD171	3.0	223	7810	1656	1	339	23	0.0	0.1	0.0	0.5	6.4	1.7
YD172	3.0	439	14900	2567	2	269	37	0.0	0.4	0.0	0.5	15.8	3.7
YD173	3.1	1160	52500	6564	7	1600	446	0.0	0.4	0.1	1.0	17.0	2.7
YD174	3.0	182	9540	1476	1	77	15	0.0	0.2	0.0	0.5	15.9	2.6
YD177	2.9	842	14800	4447	3	717	83	0.0	0.8	0.1	0.6	7.0	2.3
YD178	3.1	140	6650	2183	2	476	46	0.0	0.1	0.0	0.5	19.5	3.1
YD179	3.0	125	16700	1885	1	241	18	0.0	0.1	0.0	0.6	10.5	1.8
YD180	2.9	533	34600	6611	4	1300	293	0.0	0.1	0.0	0.8	13.4	4.3
YD181	3.0	206	15700	1861	1	170	25	0.0	0.1	0.0	0.5	8.1	1.4
YD182	3.0	77	2220	473	1	37	5	0.0	0.7	0.0	0.5	4.0	1.0
YD184	3.0	200	5450	1074	1	111	19	0.0	0.1	0.0	0.9	6.4	2.0
YD185	3.0	540	12000	3157	3	1770	232	0.0	0.4	0.0	0.6	8.6	1.9
YD186	3.0	748	12800	3694	3	4440	549	0.0	1.7	0.3	0.7	4.7	1.7
YD187	3.0	65	4330	1115	1	120	10	0.0	0.1	0.0	0.5	11.2	2.2
YD188	3.0	727	10200	3025	2	112	16	0.0	0.0	0.0	0.6	10.1	2.7
YD191	3.0	409	41300	4221	7	432	96	0.0	1.3	0.1	0.5	16.8	1.6
YD192	3.1	328	4350	1461	1	198	21	0.0	0.0	0.0	0.5	15.5	2.5

Hole ID		Cu ppm			Mo ppm			Au ppm			Ag ppm		
	Avg length	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
YD193	3.0	106	17900	1850	1	65	13	0.0	0.1	0.0	0.6	9.7	1.5
YD194	3.1	16	13300	1564	1	292	22	0.0	0.3	0.0	0.5	10.4	1.7
YD196	3.0	34	12100	1359	2	275	27	0.0	0.2	0.0	0.5	7.2	1.0
YD197	3.2	112	6630	1681	1	467	58	0.0	0.2	0.0	0.5	8.3	2.2
YD198	3.0	78	7850	1554	1	1690	49	0.0	0.2	0.0	0.6	5.0	1.3
YD199	3.0	20	4740	860	1	98	19	0.0	0.1	0.0	0.5	5.5	1.3
YD200	3.0	31	7360	771	1	198	19	0.0	0.2	0.0	0.5	22.6	1.8
YD201	3.1	151	7510	1497	1	365	55	0.0	0.0	0.0	0.5	8.5	2.1
YD202	3.0	83	9070	2076	1	247	26	0.0	0.4	0.0	0.5	3.1	1.1
YD203	3.0	60	5860	1243	1	277	26	0.0	0.4	0.0	0.5	3.5	1.1
YD204	3.1	66	16900	1076	1	754	54	0.0	0.2	0.0	0.5	15.9	1.4
YD205	3.0	30	6290	791	2	730	47	0.0	0.1	0.0	0.6	5.2	1.7
YD206	3.0	32	9720	1274	1	217	18	0.0	0.2	0.0	0.5	9.1	1.6
YD207	3.0	20	21700	2283	1	1050	118	0.0	1.8	0.2	0.5	7.9	1.8
YD208	3.1	174	13900	2814	1	5170	193	0.0	1.0	0.2	0.5	8.1	1.8
YD209	3.1	128	8700	1807	2	924	66	0.0	0.2	0.0	0.6	12.4	2.3
YD210	3.1	62	5630	1387	2	72	16	0.0	0.1	0.0	0.5	4.5	1.6
YD211	3.2	6	5100	768	1	32	5	0.0	0.4	0.0	0.5	6.9	1.6
YD212	3.1	43	3930	608	1	763	62	0.0	1.0	0.1	0.5	1.9	0.8
YD213	3.0	564	13100	3790	1	1520	147	0.0	1.1	0.2	0.5	6.9	1.8
YD214	3.0	105	18700	1423	3	437	25	0.0	0.3	0.0	0.6	9.6	1.8
YD215	3.0	102	2920	825	2	304	18	0.0	0.0	0.0	0.5	15.0	2.1
YD216	3.0	115	14500	1502	1	1210	26	0.0	0.4	0.0	0.5	11.1	1.2
YD217	3.0	112	22000	3120	2	1350	95	0.0	0.5	0.1	0.5	7.7	1.2
YD218	3.0	22	1700	389	1	75	7	0.0	0.4	0.0	0.5	1.6	0.7
YD219	3.0	148	17800	2421	3	226	45	0.0	0.1	0.0	0.9	15.0	2.5
YD220	3.2	46	10500	1794	2	224	36	0.0	0.0	0.0	0.5	9.8	2.1
YD221	3.1	222	3240	1196	1	206	23	0.0	0.2	0.0	0.5	6.5	1.6
YD222	3.0	179	8730	1223	1	246	37	0.0	0.2	0.0	0.5	2.1	0.8
YD223	3.1	162	21300	1826	1	220	27	0.0	0.6	0.1	0.5	7.2	1.1
YD224	3.1	19	17500	2241	1	1190	57	0.0	1.2	0.1	0.5	10.8	1.4
YD225	3.0	16	24700	2446	1	192	43	0.0	0.2	0.0	0.5	11.8	2.1
YD226	3.1	64	2820	538	1	52	8	0.0	0.1	0.0	0.5	1.7	0.7
YD227	3.1	180	23700	2827	1	1770	95	0.0	1.5	0.1	0.5	7.9	1.4
YD228	3.0	32	30700	2718	1	941	84	0.0	0.6	0.1	0.5	21.0	2.1
YD229	3.0	7	13500	1440	1	246	17	0.0	2.1	0.1	0.5	11.2	1.6
YD230	3.1	183	3170	983	1	467	25	0.0	0.1	0.0	0.5	5.2	1.0
YD231	3.1	96	3870	805	1	331	58	0.0	0.4	0.1	0.5	4.2	1.1
YD232	3.0	32	3440	783	1	58	12	0.0	0.1	0.0	0.5	3.7	1.1
YD233	3.1	37	6020	983	1	202	10	0.0	0.3	0.0	0.5	1.2	0.7
YD234	3.1	7	2850	564	1	26	3	0.0	4.5	0.2	0.5	11.9	1.5
YD235	3.0	37	5930	841	2	72	10	0.0	0.3	0.0	0.5	6.7	1.1
YD236	3.2	77	5030	862	1	587	25	0.0	0.3	0.0	0.5	11.0	1.0
YD237	3.1	5	7160	1688	1	186	30	0.0	0.1	0.0	0.5	6.8	1.8

Hole ID		Cu ppm			Mo ppm			Au ppm			Ag ppm		
	Avg length	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
YD238	3.1	17	8070	1103	1	185	27	0.0	0.0	0.0	0.5	6.3	1.5
YD239	3.1	50	2060	296	1	25	3	0.0	0.1	0.0	0.5	3.0	0.7
YD240	3.0	146	11500	1562	1	467	28	0.0	0.3	0.0	0.5	3.1	0.9
YD241	3.0	26	1620	339	1	411	17	0.0	0.1	0.0	0.5	1.1	0.7
YD242	3.2	23	1340	269	1	100	6	0.0	0.1	0.0	0.5	1.2	0.6
YD243	3.0	187	6080	1593	1	288	22	0.0	0.1	0.0	0.5	4.5	1.8
YD244	3.0	40	13700	1220	1	54	4	0.0	0.1	0.0	0.5	18.4	1.9
YD245	3.0	204	29600	3908	1	1910	87	0.0	0.5	0.1	0.5	17.3	2.3
YD246	3.0	131	8750	2224	1	3920	101	0.0	0.6	0.1	0.5	8.0	1.4
YD247	3.0	78	12200	3263	1	1050	120	0.0	1.8	0.2	0.5	8.2	1.7
YD248	3.0	166	13900	2210	1	1420	77	0.0	2.1	0.1	0.5	6.0	1.4
YD258	3.1	121	9000	2109	1	966	90	0.0	0.8	0.1	0.5	7.1	1.3
YD259	3.0	618	20600	4596	2	692	74	0.0	2.0	0.2	0.6	8.5	2.3
YD260	3.1	88	10300	2346	1	1170	115	0.0	0.3	0.1	0.5	4.1	1.4
YD261	3.1	242	15100	3329	1	996	57	0.0	1.1	0.1	0.5	235.0	3.6
YD268	3.0	65	3650	497	1	73	6	0.0	0.3	0.0	0.5	2.6	1.0
YD270	3.0	8	5020	392	1	619	19	0.0	0.4	0.0	0.5	5.1	1.0
YD271	3.1	56	13900	1530	2	776	65	0.0	0.3	0.0	0.5	5.3	1.3
YD272	3.1	16	7790	1304	2	1280	79	0.0	1.0	0.1	0.5	5.7	1.2
YD273	3.0	14	30900	2255	1	6520	164	0.0	1.1	0.1	0.5	12.3	1.8
YD274	3.1	11	5120	451	1	2780	65	0.0	0.5	0.0	0.5	13.4	1.0
YD275	3.6	868	7480	4173	3	296	78	0.1	0.7	0.3	0.5	3.9	1.9
YD276	3.3	18	2010	188	1	16	3	0.0	0.1	0.0	0.5	4.5	1.5
YD277	3.0	26	41100	1420	1	211	10	0.0	0.4	0.0	0.5	15.9	1.3
YD278	3.0	383	80500	3565	1	1460	69	0.0	0.9	0.1	0.6	40.1	2.2
YD279	3.0	19	14700	1861	1	1040	105	0.0	0.8	0.1	0.5	7.3	1.4
YD285	3.0	137	8480	1848	5	1250	82	0.0	1.0	0.1	0.7	4.0	1.4
YD286	3.0	8	2080	417	1	105	12	0.0	0.2	0.0	0.6	1.4	0.9
YD291	3.1	70	45500	4018	1	547	51	0.0	0.3	0.1	0.5	14.5	2.3
YD292	3.9	1160	4340	2075	2	253	60	0.0	0.1	0.1	0.5	10.2	2.9
YD293	3.0	83	16300	1416	1	341	31	0.0	0.3	0.0	0.5	4.0	0.9
YD294	3.0	5	20000	3436	1	3300	139	0.0	2.1	0.1	0.5	31.5	2.4
YD295	3.6	614	4180	1332	1	49	4	0.0	0.1	0.0	1.1	2.2	1.7
YD296	3.1	119	46300	3723	1	1950	75	0.0	0.3	0.0	0.5	14.5	1.8
YD297	3.0	118	7930	2190	2	402	38	0.0	0.2	0.1	0.6	3.9	1.6
YD298	3.0	41	4490	1644	1	280	22	0.0	0.2	0.1	0.5	2.4	1.5
YD299	3.0	22	4560	332	1	50	8	0.0	0.3	0.0	0.5	5.1	0.9
YD300	3.0	100	9970	2058	1	633	26	0.0	3.7	0.1	0.8	13.2	2.4
YD301	3.0	294	11200	3279	1	3040	142	0.0	0.6	0.2	0.5	6.0	1.9
YD302	3.1	45	4420	1271	1	142	16	0.0	0.3	0.0	0.6	2.1	1.2
YD303	3.0	133	35300	2893	1	1080	32	0.0	0.2	0.0	0.5	14.0	1.9
YD306	3.0	220	19800	4345	7	2180	230	0.0	0.8	0.1	0.6	5.7	1.9
YD307	3.0	99	24200	2384	1	1320	84	0.0	0.3	0.0	0.5	7.6	0.9
YD308	3.0	7	25300	2990	1	878	67	0.0	5.2	0.2	0.5	42.9	2.1

Hole ID		Cu ppm			Mo ppm			Au ppm			Ag ppm		
	Avg length	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
YD311	3.0	368	37700	4524	2	1080	74	0.0	0.3	0.0	0.6	10.9	2.3
YD312	3.0	73	23300	2172	1	1260	90	0.0	1.0	0.1	0.5	6.9	1.8
YD313	3.0	61	28200	2365	1	403	26	0.0	1.6	0.0	0.5	17.9	2.2
YD315	3.0	525	17800	4892	4	281	61	0.0	0.4	0.1	0.6	9.0	2.4
YD317	3.0	27	14600	1973	1	681	119	0.0	0.8	0.1	0.5	3.7	1.4
YD318	3.2	55	4080	1693	1	55	9	0.0	0.1	0.0	0.5	3.6	1.3
YD319	3.0	89	2670	463	1	42	6	0.0	0.0	0.0	0.5	1.2	0.7
YD320	3.0	36	17600	2627	1	4430	227	0.0	1.0	0.1	0.5	7.1	1.7
YD321	3.0	116	17600	4196	3	1190	118	0.0	0.7	0.1	1.1	13.1	2.6
YD322	3.0	242	23600	3893	1	854	112	0.0	1.1	0.1	0.6	12.8	2.7
YD323	3.0	21	25500	3045	1	1170	114	0.0	0.6	0.1	0.5	26.7	1.7
YD325	3.1	65	27900	4587	1	5740	242	0.0	0.8	0.1	0.5	12.8	2.1
YD326	3.0	318	31800	4100	3	789	95	0.0	0.4	0.1	0.5	10.0	1.8
YD327	3.0	91	20800	3288	2	992	124	0.0	1.4	0.1	0.5	14.2	1.7
YD328	3.0	256	13800	3178	4	5220	144	0.0	0.2	0.1	0.5	9.9	2.3
YD330	3.0	351	11300	2973	1	1160	63	0.0	0.3	0.0	0.6	23.7	1.7
YD331	3.0	578	20200	4162	1	415	67	0.0	1.2	0.1	0.8	12.6	2.7
YD332	3.0	280	16300	2777	3	477	69	0.0	0.5	0.0	0.5	6.3	1.3

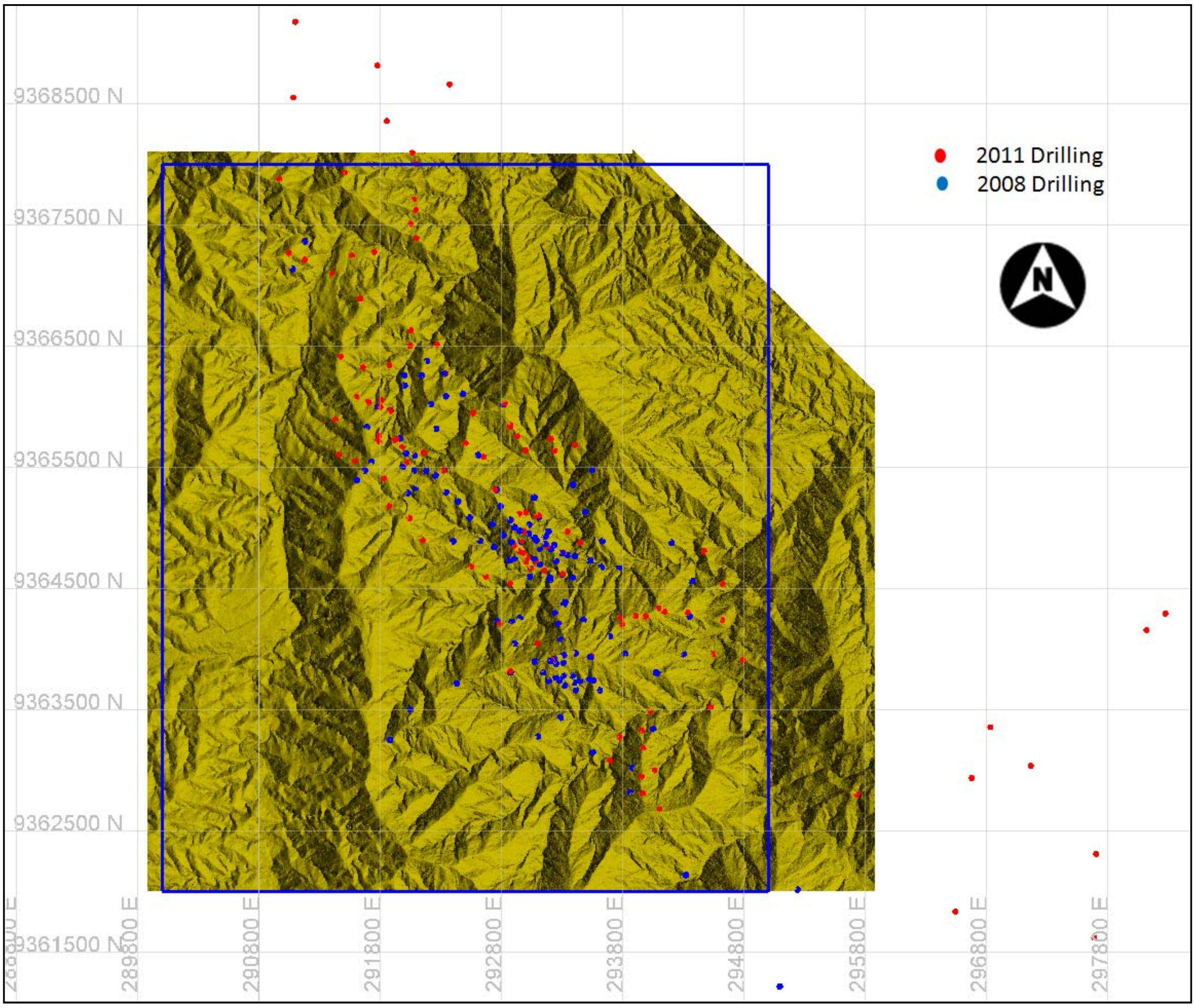


Figure 13-4: Drill Hole Locations – Existing and Additional Drilling Used in Resource Update

14.0 SAMPLING METHOD AND APPROACH

Limited detail exists on the sampling methodologies applied for drill holes DDH001 through to DDH102. Marengo's senior consultant geologist Mr Johan Smit worked for BHP at Yandera in the 1970s and has provided anecdotal evidence of the practices of the period. All other information has been sourced from Marengo's library of historical reports. From the information available the historical drill holes were selectively sampled based on the geological logging. The early AXWL and BQ holes would have been completely sampled due to the small drill hole diameter. Based on the remaining discarded core the later NQ core appears to have been fully sampled. No records of the analytical techniques used to derive the assays available. The current database records have been validated against the BHP compilation of results (BHP, 1976). The BHP data is regarded as being an accurate and reliable source based on the thoroughness of the report and anecdotal records of procedures at the time.

No historical core, sample splits or pulps are available for re-sampling. The core remaining after sampling was originally stored on site but has over time been discarded and the core trays recycled.

All of the Marengo drill holes at Yandera are diamond cores. On retrieval, continuous core is marked with an orientation line by the driller, boxed and labelled at the drill site then transported by helicopter long line to the main camp for processing at the core shed (Figure 14-1).

Figure 14-1: Core Shed Yandera

At the core shed the core is laid out on racks for processing. Core marker blocks are checked and core measured, recording losses and gains. The core is marked and labelled every 3 m. The orientation line is checked and downhole arrows marked on the core. The whole core is photographed.

Logging by the site geologists begins with a summary geological log. Magnetic Susceptibility readings are taken every 0.5 m. If the core orientation is reliable, geotechnical logging is also undertaken. If the core orientation is unreliable only fracture density data is recorded.

79% of Marengo drill core sample have greater than 80% core recovery. This is good for the ground conditions and indicates they are achieving a reasonably representative sampling of the mineralisation.

Broken core is reassembled and taped together to ensure a representative sampling during cutting. All core is sawn in half, keeping the right hand side of the core with the orientation markings intact. The core is sampled in three metre intervals.

The half core is photographed and geologically logged in detail. Core is stored on site for later reference and check sampling. After the receipt of sample assays the core is reviewed and re-logged if required.

All logging is done on paper and transcribed to a computer spreadsheet on site. The compiled spreadsheet is validated against the paper logs. This data entry spreadsheet is electronically transmitted to Marengo's Perth office where the Data Administrator performs a further validation of the data checking for internal consistency. Any anomalies in the data are referred back to site for correction or confirmation. The validated data entry spreadsheet is merged with the main database by Marengo's Data Administrator (see Section 15.0).

Drilling has sampled nine kilometres of strike length and 2.8 km of width of the Yandera Copper Molybdenum Project porphyry. Most sampling is concentrated in the Omora to Gremi central area over a 3.9 km strike and 800 m width. Samples average three metres in length throughout the deposit. Smaller samples are taken where geological logging indicates a significant change. In the massive alteration areas a 3 m sampling resolution is adequate to define the mineralisation. The geological database upon which the resource for the Yandera Copper Molybdenum Project is based contains 345 drill holes with a total of 113,715 m containing 34,382 logged and assayed intervals. The database contains 33,730 valid Cu assays, 29,963 valid Mo assays, 26,375 valid Au assays and 28,956 Ag valid assays. Only 21,590 samples have results for all four analytes.

Core recovery is reasonable, however broken core may result in loss of Mo which commonly occurs on fractures and joints. Similarly Mo can be lost during core sawing. There should be minimal impact on Cu which occurs more commonly as sulfides disseminated through the core. Marengo have yet to investigate and quantify any Mo loss during sample preparation.

As further discussed in Section 16.0, quality control procedures are in place to monitor for bias in the laboratory sample preparation and analysis.

Samples are taken on nominal three metre intervals from the drill core which adequately samples the mineralisation within the marginal alteration halo and the higher grade breccias in the core area of intense alteration.

Sample quality and representivity are considered adequate for the resource as currently defined.

Sampling results on a per hole basis are summarised in Table 13-5. The full length of most holes are altered and mineralised to varying degrees. The true width of the alteration zone varies from 350 m to 1000 m and the true width of the higher grade breccias ranges from 5 m to 50 m.

15.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

15.1 Historical Samples

Historical sampling methodologies are discussed in Section 14.0.

15.2 Sample Preparation

Drill core from Marengo drill holes is sawed in half on site one half of the core is retained on site in core racks and the other bagged and labelled and transported to lay down area three near Brahman Mission by helicopter. Outgoing samples are stored in a locked building until the samples for a complete hole(s) are ready for shipment. Core storage on site is in a locked core farm facility. Site sample preparation is undertaken by Marengo personnel.

Samples are transported by a contractor by road to the Intertek sample preparation facilities in Lae. The samples are dried, crushed, split and pulverised in Lae. A split of the pulp is sent to Intertek's laboratory in Jakarta for analysis. Up to mid 2009 the remaining coarse split and pulp rejects were returned to Marengo's storage facility at Brahman Mission. Due to the access road being washed out at the Ramu river, sample reject since this time have been stored at the Intertek facility in Lae. Laboratory sample preparation is undertaken by Intertek personnel.

15.3 Assaying and Analytical Procedures

The Intertek laboratory in Jakarta analyses all samples in two passes. A 50 g fire assay fusion with an AAS finish for gold analysis is run initially (FA50). A second ICP analysis is run for a large suite of elements including copper and molybdenum.

Table 15-2 lists the full analysis suite for the Marengo drilling program. IC50 is a multi-acid digest with the dissolved metals then determined by ICP-Optical Emission Spectroscopy. Analytical results are initially received by Marengo in electronic format and are later followed up with hard copy assay certificates.

The Intertek laboratory in Jakarta is accredited by KAN (Kommittee Acreditasi Nasional), the Indonesian version of NATA, to ISO 17025. Both are members of APLAC. The laboratories accreditation is assessed on an annual basis. Accreditation does not cover the sample preparation facility in LAE. The sample preparation facility has been visited and approved by Marengo staff. Golder has not visited either facility.

15.4 Assay Quality Control and Quality Assurance

For the historical drilling the available Quality Control and Quality Assurance (QAQC) data is limited to a series of repeat gold assays for selected samples. Repeatability in this data is generally poor. No QAQC data for copper and molybdenum assaying is available, however it should be noted that the assaying technique is different to that used for gold. Historical reports have no mention of any QAQC issues with the data.

For the Marengo drilling programs, a sampling QAQC protocol is in place. The protocol includes the submission of duplicate samples from the sub-2 mm coarse crush ('DUP1') and from the <75 µm pulverised sample reject ('DUP2'). DUP1 samples are selected approximately every 40 samples. DUP2 samples are selected approximately every 30 samples.

A series of quarter core samples have also been analysed for comparison against the original half core samples. Comparison of the quarter core results shows some variance between the sample, particularly for molybdenum, indicating a slight 'nuggety' nature to the mineralisation.

A set of standard samples has been obtained from Ore Research and Exploration Pty Ltd. These porphyry copper-gold samples are based on material sourced from the Northparkes mine in New South Wales (Australia) and are similar in composition to the Yandera mineralisation and lithology. These standards are listed in Table 15-1. The standards are not certified for molybdenum.

Table 15-1: Cu Standards

Standard Code	Value
50P	0.69
50Pb	0.74
51P	0.73
52P	0.39
53P	0.41
53Pb	0.55

In general the QAQC program shows that the assays from Yandera are supportable and repeatable.

The Intertek Indonesia laboratory is ISO 17025 accredited and ensures international standards are maintained. In addition to the duplicate and standards submitted by Marengo the laboratory analyses its own sets of standards and repeats. The laboratory results are reported to their clients on a regular basis and have shown no anomalous results or other areas of concern.

In order to check the accuracy of the Intertek results 126 pulp samples were submitted to Genalysis prior to the merger of the two laboratories. Copper and Molybdenum show a slight bias toward Intertek with a correlation coefficient of 0.98. Gold shows a higher degree of variability with slight positive bias towards the Genalysis results.

Table 15-2: Current Sample Analysis Suite

Element	Units	Detection Limit	Digestion	Temperature	Digest Time (minutes)
Au	ppm	0.005-50	FA50	90 °C	30
Ag	ppm	0.5	IC50	180-200 °C	120
Al	%	0.01	IC50	180-200 °C	120
As	ppm	5	IC50	180-200 °C	120
Ba	ppm	2	IC50	180-200 °C	120
Bi	ppm	5	IC50	180-200 °C	120
Ca	%	0.01	IC50	180-200 °C	120
Cd	ppm	1	IC50	180-200 °C	120
Co	ppm	2	IC50	180-200 °C	120
Cr	ppm	2	IC50	180-200 °C	120
Cu	ppm	2	IC50	180-200 °C	120
Fe	%	0.01	IC50	180-200 °C	120
Ga	ppm	10	IC50	180-200 °C	120
K	%	0.01	IC50	180-200 °C	120
La	ppm	1	IC50	180-200 °C	120
Li	ppm	1	IC50	180-200 °C	120
Mg	%	0.01	IC50	180-200 °C	120
Mn	ppm	2	IC50	180-200 °C	120
Mo	ppm	1	IC50	180-200 °C	120
Na	%	0.01	IC50	180-200 °C	120
Nb	ppm	5	IC50	180-200 °C	120
Ni	ppm	1	IC50	180-200 °C	120
Pb	ppm	2	IC50	180-200 °C	120

Element	Units	Detection Limit	Digestion	Temperature	Digest Time (minutes)
Sb	ppm	5	IC50	180-200 °C	120
Sc	ppm	2	IC50	180-200 °C	120
Sn	ppm	10	IC50	180-200 °C	120
Sr	ppm	1	IC50	180-200 °C	120
Ta	ppm	5	IC50	180-200 °C	120
Te	ppm	10	IC50	180-200 °C	120
Ti	%	0.01	IC50	180-200 °C	120
V	ppm	1	IC50	180-200 °C	120
W	ppm	10	IC50	180-200 °C	120
Y	ppm	1	IC50	180-200 °C	120
Zn	ppm	2	IC50	180-200 °C	120
Zr	ppm	5	IC50	180-200 °C	120

15.5 Adequacy of Sample Preparation, Security and Analytical Procedures

In the author's opinion sample preparation and analytical procedures are of high standard. Sample security and chain of custody are considered adequate for the area and style of operation. Since the author's site visit the core storage facilities have been upgraded and security improved.

16.0 DATA VERIFICATION

16.1 Introduction

The data set for the Yandera Copper Molybdenum Project deposit is maintained in a SQL database with DataShed as the front end interface software. Management of the database is contracted to Maxwell Geoservices (Maxwell). Maxwell have completed the data entry and compilation of all historical data and now transfer logged data from the data entry spreadsheet to the main DataShed Database. Assays for the current drilling programs are received by the Marengo Perth office and passed on to Maxwell to be merged into the database.

16.2 Historical Data

All historical data has been validated against the best original data available. Where available, original logs have been checked against the current database. Where these are not available the best secondary source of information has been used. For most data this has been the Annual and Bi-Annual reports on exploration prepared by the various companies working the tenements. Table 16-1 lists the historical records referenced. In most cases these are original documents. For analytical data only a subset of the original assay certificates are available. These certificates have been spot checked against the current database. All assays have been checked against secondary sources in the Marengo library. Most historical samples have only copper and molybdenum results available. Gold assays are available for a part of the historical dataset, however historical check assays have indicated that the results are unreliable and should be considered indicative at best.

Under Golder's supervision, the historical data has been systematically checked for:

- Collar location – Easting, Northing, RL and Depth. Imperial to Metric conversion has been checked where necessary.
- Hole direction and inclination, correct translation of True and Magnetic bearings.
- Correct transfer of electronically compiled historical assays to DataShed.
- Spot checking of hardcopy historical geology logs and assays against the DataShed database has been completed for approximately 5% of the historical holes.

Investigation of the validity of historical Au is ongoing. The data available indicates the results are from aqua regia analysis. Unverified historical check analyses produce generally higher value analyses consistent with an incomplete digest in the aqua regia analysis. In the author's opinion the Au resource estimated can be considered indicative and most likely conservative. The provenance of the historical Ag assays have similar issues.

16.3 Marengo Drilling

All drilling undertaken by Marengo has complete sets of original survey data, drill hole logs and assay certificates. In early 2007, under Golder's supervision collar and survey data to date was systematically checked and assays data spot checked. All data was found to be correct. Drilling from 2007 and 2008 has been routinely checked by Golder for internal inconsistencies and any anomalies have been addressed by Marengo.

For the ongoing drill program, all data is entered into the Datashed database by Maxwell after validation by the site geologists and the Marengo data administrator. The completed DataShed database is checked by the Marengo Data Administrator after each update. The current database is cross-checked intermittently against the equivalent database from the previous year as a further check that no discrepancies have appeared.

As part of the ongoing resource modelling and data management being undertaken by Golder receives copies of assay results directly from the Intertek laboratory. These are routinely viewed by Golder and spot checked against the main database.

This validation of the incoming data at several points ensures that any errors or discrepancies are located and rectified in a timely fashion.

In the author's opinion, the Yandera Copper Molybdenum Project database correctly presents the survey, assay and geological data collected and collated by Marengo. From the evidence available the author considers the collection methods, sampling and analytical techniques for historical Cu and Mo at Yandera to be suitable for inclusion in the current resource. Au and Ag are included in the resource however all historical sampling and assaying for these analytes is used with a lower confidence than the recent Marengo sampling and assaying. This opinion is based on review of original reports and data where available, comparison of the historical drilling data with the new drilling data and discussion with Mr Johan Smit, ex BHP geologist at Yandera.

Table 16-1: Historical Report Library

Report	Title	Author	Issuer	Date
Y01	Preliminary report on geophysical survey at Yandera, TPNG.	O'Connor, M.J.	Kennecott Explorations (Australia) Pty Ltd	1970
Y02	Yandera porphyry copper prospect, New Guinea. Progress report to December, 1971.	Grant, J.N.	Kennecott Explorations (Australia) Pty Ltd., 41pp.	1971
Y03	Quarterly progress report November-December, 1972 - January, 1973. Yandera prospect - New Guinea. Prospecting Authority 285.	Nuttycombe, N.R.	Triako Mines NL	1973
Y04	Report on visit to Yandera, November 1973.	Phillips, K.M.	Triako Mines NL	1973
Y05	Annual report 1973, Prospecting Authorities 119 (NG), & 285 (NG), Yandera, New Guinea. Vol.1 - Text. Vol.2 - Maps; Vol.3 - Maps.	Nuttycombe, N.	Amdex Mining Ltd	1974
Y06	Quarterly progress report 26 December, 1973 to 25 March, 1974. Prospecting Authorities 119 (NG) and 285 (NG), Yandera, New Guinea.	Anon.	Triako Mines NL	1974
Y07	Quarterly progress report March 25, 1974 to June 24, 1974. Prospecting Authority 285 (NG), Yandera, Papua New Guinea.	Anon.	Triako Mines NL	Jun-74
Y08	Quarterly progress report March 26, 1974 to June 25, 1974. Prospecting Authority 119 (NG), Yandera, Papua New Guinea.	Anon.	Triako Mines NL	Jun-74
Y09	Quarterly progress report June 25, 1974 to September 24, 1974. Prospecting Authority 119 (NG), Yandera, Papua New Guinea.	Anon.	Triako Mines NL	Sep-74
Y10	Quarterly progress report, September 25, 1974 to December 24, 1974, Prospecting Authorities 119 (NG), 285 (NG), 361 (NG), Yandera, Papua New Guinea.	Anon.	Triako Mines NL	Jan-75
Y11	Summary report of alteration and mineralization, Yandera central area.	Nuttycombe, N.R.	Triako Mines NL	Jan-75
Y12	Report on the Yawagu area, Yandera copper prospect, Papua New Guinea.	Foster, J.T. and Bull, P.F.	Triako Mines NL	Jan-75
Y13	Field notes Binari-Yawagu area, Yandera copper prospect, Papua New Guinea.	Bull, Peter F.	Amdex Mining Ltd	1974

Report	Title	Author	Issuer	Date
Y14	Annual report Prospecting Authorities 119 (NG), 285 (NG), 361 (NG), Yandera, PNG. Vol.1 - Central area.	Anon.	Triako Mines NL	Apr-75
Y15	Annual report Prospecting Authorities 119 (NG), 285 (NG), 361 (NG), Yandera, PNG. Vol.2 - Northern area.	Anon.	Triako Mines NL	Apr-75
Y16	Annual report Prospecting Authorities 119 (NG), 285 (NG), 361 (NG), Yandera, PNG. Vol.3 - Southern area.	Anon.	Triako Mines NL	Apr-75
Y17	Prospecting Authorities 119 (NG), 285 (NG), 361 (NG), Yandera, Papua New Guinea - Report of work carried out in the Imbruminda - Gamagu area. Yandera copper prospect, Madang District, Papua New Guinea.	Greene, Frank, F.	For Triako Mines NL	Jan-75
Y18	Prospecting Authorities 119 (NG), 285 (NG), 361 (NG), Yandera, Papua New Guinea. Geochemistry - A supplementary report Imbruminda - Gamagu area. Yandera copper prospect, Madang District, Papua New Guinea.	Greene, Frank, F.	For Triako Mines NL	Mar-75
Y20	1974 report of activities on Yandera, Papua New Guinea: sections I and II.	Titley, S.R.	Triako Mines NL	Sep-74
Y21	Quarterly progress report 7 February 1975 to 7 May 1975. Prospecting Authority 381 (NG) Yandera, Papua New Guinea.	Anon.	Triako Mines NL	May-75
Y22	Quarterly progress report 7 February 1975 to 7 May 1975. Prospecting Authority 382 (NG) Yandera, Papua New Guinea.	Anon.	Triako Mines NL	May-75
Y23	Quarterly progress report, March 25, 1975 to June 25, 1975, Prospecting Authorities 119 (NG), 285 (NG), 361 (NG), Yandera, Papua New Guinea.	Anon.	Triako Mines NL	Jun-75
Y24	Alteration/mineral zoning (a working hypothesis) and ore types at Yandera PNG.	Foster, J.T.	Triako Mines NL	Aug-75
Y25	Quarterly progress report 7 May 1975 to 7 August 1975. Prospecting Authority 381 (NG) Yandera, Papua New Guinea.	Anon.	Triako Mines NL	Aug-75
Y26	Quarterly progress report 7 May 1975 to 7 August 1975. Prospecting Authority 382 (NG) Yandera, Papua New Guinea.	Anon.	Triako Mines NL	Aug-75
Y27	Quarterly progress report, Authorities to Prospect 119 (NG), 285 (NG), 361 (NG), 25 June 1975 to 25 September 1975, Yandera, Papua New Guinea. Volume 1 - Text, assay results, plans; Vol.2 - Maps; Vol.3 - Maps.	Anon.	Triako Mines NL	Oct-75

Report	Title	Author	Issuer	Date
Y28	Summary of results of 1975 field season at Yandera - PNG.	Titley, S.R.	Buka Minerals NL	1975
Y29	Quarterly progress report, Prospecting Authority 381 (NG), Yandera, PNG, 7 August 1975 to 7 November 1975.	Anon.	Triako Mines NL	Nov-75
Y30	Quarterly progress report, Prospecting Authority 382 (NG), Yandera, PNG, 7 August 1975 to 7 November 1975.	Anon.	Triako Mines NL	Nov-75
Y31	Quarterly progress report Authorities to Prospect 119 (NG), 285 (NG), 361 (NG), Yandera, Papua New Guinea, 25 September 1975 to 25 December 1975.	Anon.	Triako Mines NL	Jan-76
Y32	Yandera: central and north western area: geology, alteration, mineralisation.	Watmuff, G.	Amdex Mining Ltd	May-75
Y33	Quarterly progress report, Prospecting Authority 382 (NG), Yandera, PNG, for the period 7 November 1975 to 7 February 1976.	Greene, Frank, F.	Triako Mines NL	Feb-76
Y34	Yandera metallurgical investigation. Vol.1 & Vol.2	Wong, K.Y.	Amdel	Apr-76
Y35	Conceptual study Yandera copper project Papua New Guinea.	Anon.	Wright Engineers Pty Ltd. for BHP	1976
Y36	Porphyry copper samples.	Dunlop, G.A.	Amdel	1975
Y38	Yandera annual report: Volume 1, geology; 1975.	Furlong, V.L.R.	Amdex Mining Ltd	1975
Y39	Yandera annual report. Volume II, operations. 1975.	Furlong, V.L.R. and van den Heuvel, H.B.	Amdex Mining Ltd	Mar-76
Y40	Annual report geology and geochemistry of Prospecting Authority 381 (NG) Madang and Eastern Highland Provinces, Papua New Guinea.	Greene, Frank F.	For Triako Mines NL	Mar-76
Y41	Hydrothermal alteration and metal zoning at Yandera: Vol.1 - a review; Vol.2 & 3 - maps.	Foster, J.T. and others	Triako Mines NL	Feb-76
Y43	Vol.1 - An evaluation of the Yandera copper prospect. Vol.2 - BHP geological appraisal (ore reserve calculations).	Bumstead, E. and others (Vol.2).	BHP	Feb-76
Y44	Yandera report - borehole assay results; Vol.1 boreholes 1-33; Vol.2 boreholes 34-39; Vol.3 boreholes 34-43. Boreholes 1-56. Vol.4.	Grant, J.N. and others	BHP	1966 to 1975
Y45	Quarterly report PA 381 (NG) for period ending 7 May 1976.	Fleming, A.W.	Triako Mines NL	1976
Y46	May 1976 report, Yandera geology, and alteration/mineralisation.	Watmuff, G.	Amdex Mining Ltd.	Jun-76
Y47	Quarterly progress report PAs 119 (NG), 285 (NG) and 361 (NG) for the period 25 March 1976 to 25 June 1976.	Anon.	Triako Mines NL	1976

Report	Title	Author	Issuer	Date
Y48	Yandera - non sulphide assays [DDH 34 to DDH 78, incomplete].	Anon.		
Y49	Quarterly report PA 382 (NG) Yandera PNG for period ending 7 August 1976.	Anon.	Triako Mines NL	Aug-76
Y50	Yandera 119 (NG). DDH1-33 final assay results. Vol.1. DH34-53 Yandera assay results. Vol.2.	Grant, J.N. and others	Kennecott Exploration & Amdex Mining Ltd	1974
Y51	Quarterly progress report PAs 119 (NG), 285 (NG) and 361 (NG) for the period 25 June 1976 to 25 September 1976.	Anon.	Triako Mines NL	Oct-76
Y52	Intentionally left blank			
Y53	Yandera copper prospect, Papua New Guinea. Plates drafted by Scintrex.	Anon.	Scintrex Pty Ltd	1976
Y54	Preliminary comments on electrical induced polarization surveys over the Yandera porphyry copper prospect Papua New Guinea on behalf of Amdex Mining Ltd. Section I - text Vol.1. Section II. plates Vol..2.	Howland-Rose, A.W.	Scintrex Pty Ltd	Oct-76
Y55	Quarterly progress report Prospecting Authority 381 (NG) Yandera, PNG for the quarter ending 7 November, 1976.	Anon.	Triako Mines NL	Nov-76
Y56	Quarterly progress report Prospecting Authority 382 (NG) Yandera, PNG for the quarter ending 7 November, 1976.	Anon.	Triako Mines NL	Nov-76
Y57	Yandera Prospect. PA'S 119, 285, 261 Papua New Guinea Annual Report 1976.	Titley, S R	Amdex Mining Limited	Dec-76
Y58	Report on work carried out June - November 1976 Yandera Copper Molybdenum Project.	Titley, S.R.	For Amdex Mining Ltd	Nov-76
Y59	Yandera prospect PAs 119, 285, 361 Papua New Guinea. Annual report 1976.	Titley, S.R., Fleming, A.W. and Neale, T.I.	Amdex Mining Ltd	Dec-76
Y60	Comments on electrical induced polarization and resistivity Schlumberger array depth soundings at Yandera, near Goroka, Papua New Guinea on behalf of Amdex Mining Ltd.	Howland-Rose, A.W. and Fleming, A.W.	Scintrex Pty Ltd	Jan-77
Y61	Yandera: Review of 1976 annual report.	Curtis, R.	Triako Mines NL	1977
Y62	Comments on resistivity data from the Yandera porphyry copper prospect, PNG.	Ashley, John	BHP (?)	Feb-77
Y63	Geology and geochronology of the Yandera porphyry copper deposit Papua New Guinea.	Grant, J. Nigel and Nielsen, Richard L.	Kennecott Explorations (Australia) Pty Ltd	Jun-74
Y64	Yandera: copper equivalent ore reserves.	Curtis, R.		May-77
Y65	Quarterly report PA 119, 285, 361 (PNG); 25 December 1976 to 25 March 1977.	Fleming, A.W.	Amdex Mining Ltd	1977

Report	Title	Author	Issuer	Date
Y66	Yandera core slide photographs: Vol.1 - DDH 34 to 41; Vol.2 - DDH 42 to 52. Vol.3 - DDH 52 to 60; Vol.4 - DDH 61 to 70. Vol.5 - DDH 70 to 80; Vol. 6 - DDH 81 to 91.			
Y67	An examination of distribution of hydrothermal alteration, Yandera, PNG, PAs 119, 285, 361.	Fleming, A.W. and Neale, T.I.	Amdex Mining Ltd	Mar-77
Y68	Yandera: PAs 119 (NG), 285 (NG), 361 (NG). Quarterly report for period ending 25/8/77.	Anon.	Amdex Mining Ltd	1977
Y69	Yandera: the distribution of mineralisation and potential target areas.	Curtis, R.	Amdex Mining Ltd	Oct-77
Y70	Yandera progress report.	Fleming, Adrian and Neale, Trevor	Amdex Mining Ltd	Sep-77
Y71	Yandera, PA 119, 285, 361, PNG. Annual report, 1977 exploration.	Fleming, A.	Amdex Mining Ltd	Dec-77
Y72	Quarterly report, Yandera, PAs 119, 285, 361 (NG) for period 25/12/77 - 25/3/78.	Anon.	Amdex Mining Ltd	Mar-78
Y73	Quarterly report, Yandera, PNG, PAs 119, 285, 361 (NG) for period 26/3/78 - 25/6/78.	Fleming, A.W.	Amdex Mining Ltd	Jul-78
Y75	Yandera 119 (NG). DDH1-20 Final assay results; DDH21A-33 Preliminary assay results.	Grant, J.N. and others	Triako Mines NL	1974
Y76	Summary drill logs, 1978.	Fleming, A. and others	Amdex Mining Ltd	1979
Y77	PA 119, 285 & 361 - Yandera, PNG. Quarterly activity report for the period ending 25 December 1978.	Neale, T.I.	Amdex Mining Ltd	Jan-79
Y78	PAs 119, 285 & 361 - Yandera, PNG. Annual report 1978.	Ambler, W.	Amdex Mining Ltd	Feb-78
Y79	PA 119, 285 & 361 - Yandera, PNG. Quarterly activity report for the period ending 25 March 1979.	Fleming, A.W.	Amdex Mining Ltd	Apr-79
Y80	Yandera core slide photographs; DDH 98 to ?			1979
Y81	The porphyry copper system at Yandera, Papua New Guinea.	Watmuff, Ivan Graeme	PhD thesis, Macquarie University, North Ryde, New South Wales	Jan-79
Y82	PAs 119, 285 & 361 - Yandera, PNG. Report for the period ending 25 June 1979.	Fleming, A.W.	Amdex Mining Ltd	Jul-79
Y83	PAs 119, 285 & 361 - Yandera, PNG. Report for the quarter ending 25 September 1979.	Fleming, A.W.	Amdex Mining Ltd	Sep-79
Y84	Yandera, PNG. Diamond drill hole core colour slides from DDH 79 to DDH ? from May 1979 to ?			Jun-79

Report	Title	Author	Issuer	Date
Y85	Yandera prospect (PNG) borehole assay results (computerized). Boreholes 1-33.	Grant, J.N. and others	The Broken Hill Proprietary Co. Pty Ltd	Jan-74
Y86	Potential ore tonnages and grades at Yandera in the Gremi, Omora and Dimbi Zones.	Anon.	Amdex Mining Ltd	
Y87	Yandera copper project (Papua New Guinea) - summary report.	Bazin, D. and Brook, W.	SNEA(P)	1978
Y88	PAs 119, 285 and 361 - Yandera, PNG. Report for the quarter ending 25 June, 1980.	Bourn, R.	Amdex Mining Ltd	Jul-80
Y89	PAs 119 (NG), 285 (NG) & 361 (NG) - Yandera, Papua New Guinea. Report for the period ending September 25, 1980.	Neale, T.	Amdex Mining Ltd	Oct-80
Y90	Plan metaux, 1981	Anon.	Yandera copper-molybdenum porphyry prospect.	1981
Y91	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 25 December, 1980.	Neale, T.I.	Amdex Mining Ltd	Mar-81
Y92	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Annual report, 1980.	Neale, T.I.	Amdex Mining Ltd	Mar-81
Y93	Review of Yandera mineralisation potential.	Greenway, D, Neale, T. and Guy, B.	Triako Mines NL	Feb-81
Y94	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 25 March, 1981.	Guy, B.B.	Amdex Mining Ltd	May-81
Y95	Application for extension of Prospecting Authority 119 (NG) for the term 25 September, 1981 to 25 September, 1983.	Guy, B.B.	Amdex Mining Ltd	Sep-81
Y96	Application for extension of Prospecting Authority 285 (NG) for the term 28 September, 1981 to 28 September, 1983.	Guy, B.B.	Amdex Mining Ltd	Sep-81
Y97	Application for extension of Prospecting Authority 361 (NG) for the term 25 September, 1981 to 25 September, 1983.	Guy, B.B.	Amdex Mining Ltd	Jul-81
Y98	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for the quarter ending 25 June, 1981.	Guy, B.B.	Amdex Mining Ltd	1981
Y99	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 25 September, 1981.	Guy, B.B. and Owen, T.	Amdex Mining Ltd	Oct-81
Y100	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 25 December, 1981 and annual report for 1981.	Lacharpagne, J-C.	Amdex Mining Ltd	Apr-82
Y101	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 25 March, 1982.	Lacharpagne, J-C.	Amdex Mining Ltd	May-82

Report	Title	Author	Issuer	Date
Y102	Interpretation of geophysical results from the Yandera porphyry copper project, Papua New Guinea.	Gunn, P.J.	Amdex Mining Ltd	Feb-82
Y103	Yandera, PNG. Prospecting Authorities Nos.119, 285, 361. A re-assessment of geological data.	Lacharpagne, J-C.	Amdex Mining Ltd	May-82
Y104	Yandera, PNG. Prospecting Authorities Nos.119, 285, 361. Report for quarter ending 25 June, 1982.	Lacharpagne, J-C.	Amdex Mining Ltd	Jul-82
Y105	Yandera, PNG. Prospecting Authorities Nos.119, 285, 361. A re-assessment of geological data. Plan metaux submission.	Lacharpagne, J-C.	Amdex Mining Ltd	Jun-82
Y106	Yandera (Niugini). Re-evaluation des donnees geologiques. Proposition d'un programme de forages pour 1982-1983.	Amade, E.	SNEA	Jul-82
Y107	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 25 September, 1982.	Guy, B.B. and Owen, T.	Amdex Mining Ltd	Oct-82
Y108	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Work programme & budget for period 25/9/82 to 25/9/83.	Guy, B.B.	Amdex Mining Ltd	Sep-83
Y109	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 25 December 1982 & annual report for 1982.	Guy, B.B.	Amdex Mining Ltd	Feb-82
Y110	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 31 March 1983.	Guy, B.B.	Amdex Mining Ltd	Mar-83
Y111	Application for extension of Prospecting Authority 119 (NG) for the term 25 September, 1983 to 25 September, 1985. Work programme and budget: 25/9/83 to 25/9/84. Provisional programme and budget: 25/9/84 to 25/9/85.	Guy, B.B.	Triako Mines NL	Jun-83
Y112	Application for extension of Prospecting Authority 285 (NG) for the term 28 September, 1983 to 28 September, 1985. Work programme and budget: 28/9/83 to 28/9/84. Provisional programme and budget: 28/9/84 to 28/9/85.	Guy, B.B.	Triako Mines NL	Jun-83
Y113	Application for extension of Prospecting Authority 361 (NG) for the term 25 September, 1983 to 25 September, 1985. Work programme and budget: 25/9/83 to 25/9/84. Provisional programme and budget: 25/9/84 to 25/9/85.	Guy, B.B.	Triako Mines NL	Jun-83
Y114	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 30 June 1983.	Guy, B.B.	Triako Mines NL	Jul-83

Report	Title	Author	Issuer	Date
Y115	Yandera Copper Molybdenum Project: plan metaux report for period 1 January, 1983 to 30 June, 1983.	Guy, B.B.	Triako Mines NL	Sep-83
Y116	Extract from Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 25 September, 1983. (Appendix 5: Kombia Nogai gold sampling programme. Assay results and sample descriptions.)		Triako Mines NL	1983
Y117	Compte-rendu d'activites sur le projet "Yandera" (Nuigini) pendant le ler semestre 1983.	Amade, E.	SNEA	Oct-83
Y118	Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for quarter ending 25 December 1983, & annual report for 1983.	Guy, B.B.	Triako Mines NL	Jan-84
Y118A	Yandera gold investigations, February 1984. Technical report No.3107.	Davies, R.M.	Kennecott Explorations (Australia) Ltd	Apr-84
Y119	Technical report. Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for the quarter ending 25 March 1984.	Guy, Brian B.	Triako Mines NL	May-84
Y120	Technical report. Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for the quarter ending June 25 1984.	Guy, Brian B.	Triako Mines NL	1984
Y121	Technical report. Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for the quarter ending September 25, 1984.	Guy, Brian B.	Triako Mines NL	1984
Y122	Technical report. Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for the quarter ending December 25, 1984. Annual report for 1984.	Rowley, M.	Triako Mines NL	Jan-85
Y123	Technical report. Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for the quarter ending March 25, 1985.	Guy, Brian B.	Triako Mines NL	Jun-85
Y124	Technical report. Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for the quarter ending June 25, 1985.	Guy, Brian B.	Triako Mines NL	Jun-85
Y125	Technical report. Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Report for the quarter ending September 25, 1985.	Guy, Brian B.	Triako Mines NL	Nov-85
Y126	Technical report. Prospecting Authorities 119, 285, 361 - Yandera, Papua New Guinea. Annual report for 1985.	Guy, Brian B.	Triako Mines NL	1986

Report	Title	Author	Issuer	Date
Y127	Prospecting Authorities 119 & 285 - Yandera, Papua New Guinea. Annual report for period September 25, 1985 - September 25, 1986.	Guy, Brian B.	Triako Mines NL	1986
Y128	Transportation systems for Frieda, Ok Tedi and Tifalmin mineral prospects. Final report.	Anon.	Rendel & Partners for Papua New Guinea Department of Transport.	1975
Y129	Intentionally left blank			
Y130	Yandera drill hole assays - DDH81-90.	Wood, D and others	The Broken Hill Proprietary Co Ltd	Jan-76
Y131	Book 1 - Yandera: contour trails; soil & rock chip samples; Volume 2.	Anon.	The Broken Hill Proprietary Co Ltd	Jan-75
Y132	Yandera: contour trails; soil & rock chip samples; Volume 3.	Greene, F.F. and others	The Broken Hill Proprietary Co Ltd	Jan-75
Y133	Yandera check assays: DDH34	Various	Amdex Mining Ltd	Jan-76
Y134	Yandera drill hole assays: DDH54-80	Various	The Broken Hill Proprietary Co. Ltd	Jan-76
Y135	Yandera - 1973: trail sample assay results.	Various	Carpentaria Exploration Co. Pty. Ltd.	Jan-74
Y136	Yandera: contour trails; soil & rock chip samples; Volume 2.	Various	The Broken Hill Proprietary Co Ltd and others	Jan-75
Y137	Book 2 - Yandera: contour trails; soil & rock chip samples; Volume 2.	Anon.	The Broken Hill Proprietary Co Ltd, and others	1974
Y138	Yandera: contour trails; soil & rock chip samples; Volume 1.	Morgan A. and others	The Broken Hill Proprietary Co Ltd	Jan-74
Y139	Yandera drill hole assays - DDH13-33	Various	The Broken Hill Proprietary Co. Ltd	Jan-74
Y140	Prospecting Authorities 119 & 285, Yandera, Papua New Guinea. Annual report for period September 25, 1988 - September, 24, 1989	Guy, Brian B.	Triako Resources Ltd	Dec-89
Y141	Yandera Copper Molybdenum Project: proposal for further evaluation of exploration/development potential.	Guy, Brian B.	Triako Resources Ltd	Jun-88
Y142	Prospecting Authorities 119 & 285, Yandera, Papua New Guinea. Annual report for period September 25, 1987 - September, 24, 1988.	Guy, Brian B.	Triako Resources Ltd	1988
Y143/ MD61	Yandera drill logs: DDH13 to DDH33.	Nuttycombe, A.R.	Amdex Mining Ltd	Jan-74
Y144	Yandera photos (35 mm colour slides).	Anon.		
Y145	Madang urban study.		Russell D Taylor & Partners Pty Ltd for Papua New guinea Department of Lands Surveys and Mines.	1972

Report	Title	Author	Issuer	Date
Y146	Aerial photographs - Yandera, Frieda River, Bougainville.	None	Mapmakers; Qasco;	Jan-75

Additional reports reviewed during the reporting process are listed in the references.

17.0 ADJACENT PROPERTIES

The Yandera property (EL1335) is surrounded on three sides by EL 1416, EL1670 and EL 1665 which are also held by Marengo. The ground to immediately the North of EL 1335 is currently not held as an Exploration Licence or Mining Lease.

The nearest other tenements are:

- EL 193 (248.93 km^2) centred 20 km NNE of Yandera. EL 193 is held by Ramu Nickel and is the site of the Ramu Nickel Mine, majority owned by China's Ramu Nico Management (MCC) Limited. The Ramu mine is based on a Nickel Cobalt laterite resource. Production is anticipated to commence at the mine in 2011 (Ramu, 2011).
- El 1755 (2417.69 km^2) is centred 75 km NW of Yandera and is held by Australian PNG Minerals ("APM"). APM is prospecting for gold and minerals (APM, 2011).
- EL 1611 (514.91 km^2) located 90 km NWW of Yandera at Angiki is held by Regional Resources PNG Ltd (MRA, 2009).

18.0 MINERAL PROCESSING AND METALLURGICAL TESTING

This section is not applicable to this report.

19.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

19.1 Mineral Resource

19.1.1 Introduction

The Yandera Porphyry System lies within the core of the Bismarck Intrusive Complex, a Triassic granitic pluton located within the Ramu Fault Zone that runs NW-SE along the northern side of the highlands of Papua New Guinea. Mineralisation has been defined within an alteration halo 1300 m wide and extending 6000 m along strike.

The previous resource estimate was completed in October 2008. No Mineral Reserve has been estimated for the deposit.

19.1.2 Mineral Resource Estimate – Key Assumptions, Parameters and Methods

Assumptions

- Mineralisation is confined to the alteration zones.
- Higher grade mineralisation exists in the intense alteration zones.
- Lithology has limited control on mineralisation.
- Copper and molybdenum mineralising events are independent.
- Copper Equivalent (CuEq) grades are calculated as Cu+(Mo*10), ppm or percent.

Parameters and Methods

- Three dimensional solid models of the mineralised domains, weathering surfaces and topography were constructed and used in creating a block model of the deposit.
- Five metre composite sample grades were used in statistical analyses and interpolation.
- The Yandera Copper Molybdenum Project resource has been estimated using Ordinary Kriging.
- Kriging parameters were derived from variographic analysis of the composited drill data.
- Alteration and lithological domains were estimated independently.
- Dry Bulk Density was assigned to the model by lithology based on measurements made by Marengo.
- Resources are reported at a copper equivalent cut off values of 2000 ppm (0.2%) CuEq, 2500 ppm (0.25%) CuEq and 3000 ppm (0.3%) CuEq.

19.1.3 Qualified Person

The Yandera Copper Molybdenum Project Mineral Resource was prepared under the supervision of Stephen Godfrey, Associate and Principal Resource Geologist with Golder Associates Pty Ltd (Australia). Mr Godfrey is a member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity undertaken to qualify as 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) and to qualify as a qualified person as defined by the Canadian Institute of Mining Metallurgy and Petroleum.

19.1.4 Estimation Database

The February 2011 resource estimate set out in this report is based on drilling data up to 19 January 2011. The database includes assays for Cu, Mo, Au and Ag.

19.1.5 Drill Holes

The drill hole data was compiled by and is also managed by Marengo. All drill holes use the AGD66 grid coordinate system.

Drilling was completed on 50 m and 100 m spaced sections (minimum of 25 m sections at Gremi), with drill holes at 50 m to 100 m centres on each section (25 m on-section spacing at Gremi). The drilling consists of 345 drill holes, with a total of 113,715 m containing 34,382 logged and assayed intervals. Diamond drilling (DD) was used for all drill holes. All of the drill holes dip between -30° and -90° with varying azimuths (Figure 19-1).

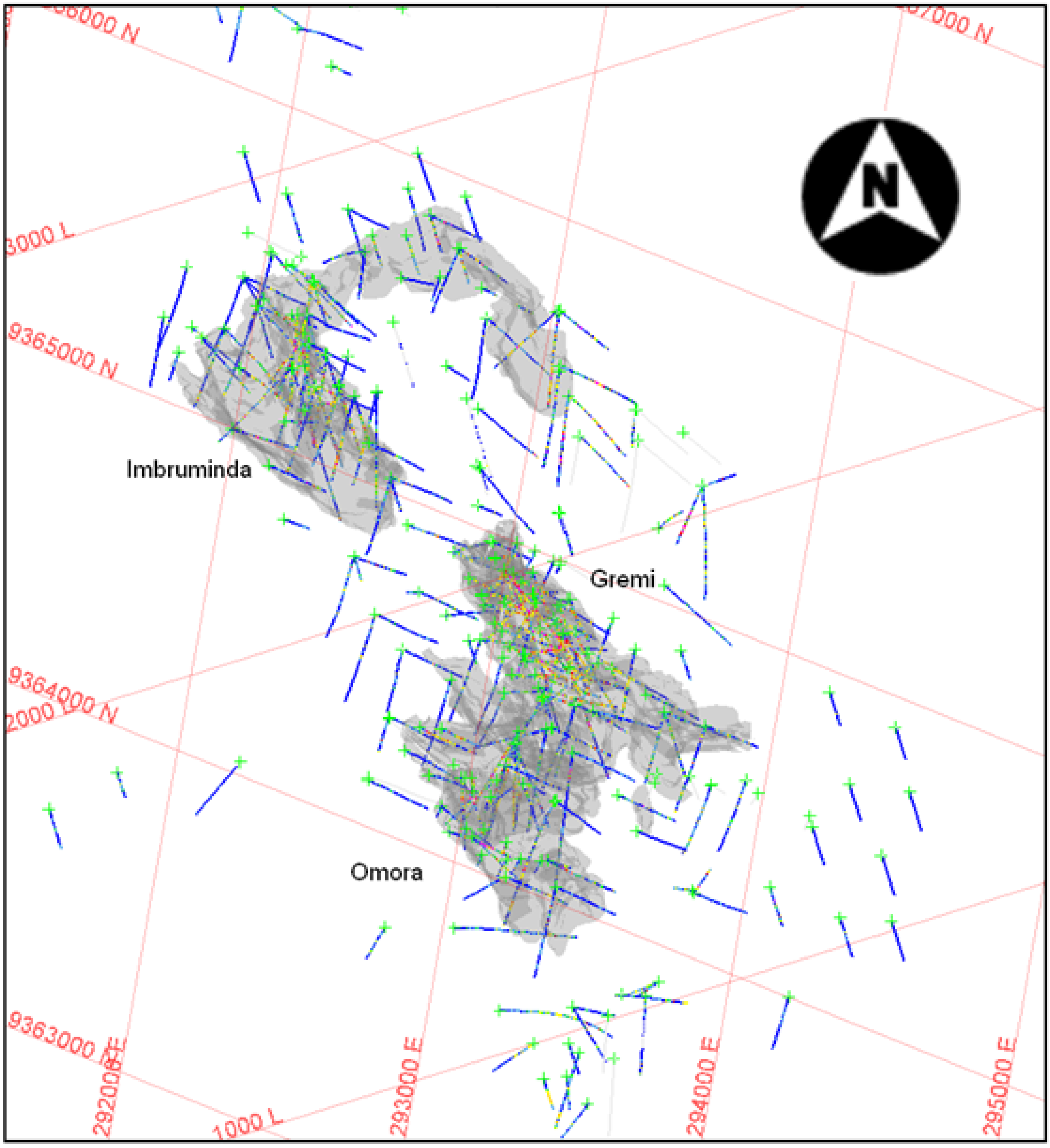


Figure 19-1: Oblique View of Drilling Orientations at Yandera

The drill holes have been sampled on various m intervals, ranging in size from 0.17 m to 48.46 m, but the majority are three metres in length. All sampled drill holes have been analysed for Cu ppm, Mo ppm, Au ppm and Ag ppm. Half core samples were taken from the diamond drill holes.

Figure 19-2 shows the drill spacing and distribution across all areas.

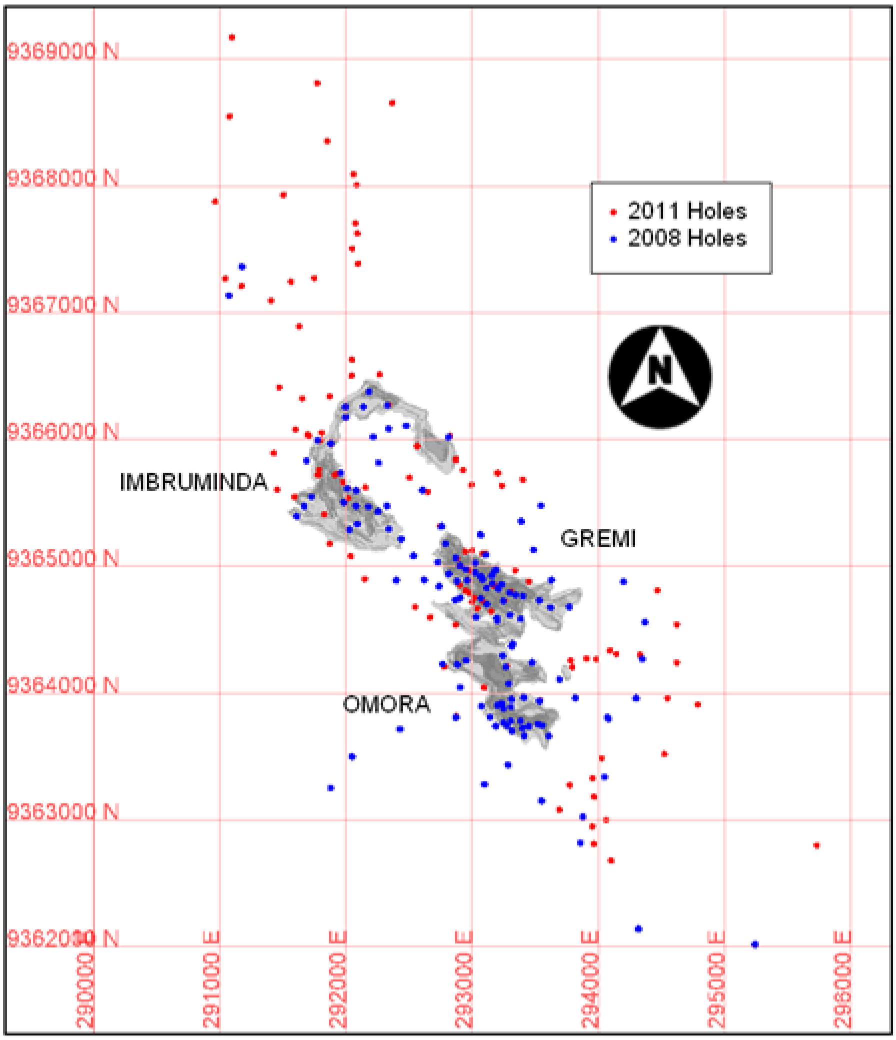


Figure 19-2: Drill Hole Collar Locations at Yandera

19.1.6 Database Validation

The referential integrity of the supplied database was completed by Golder prior to loading into the modelling software. The analysis included the following checks:

- Cross table checks (drill holes in collar but not in assay, etc).
- Collar depth against final assay and logged geology depths.
- Overlapping intervals or gaps in the assay and geology tables.
- Duplicate drill hole names and duplicate coordinates.
- Coordinate values of zero.
- Integer coordinate values (indicative of lack of detailed survey data).
- Extreme variations (≥ 10°) in drill hole azimuth or dip between consecutive downhole survey records.

19.1.7 QAQC Review

In July 2010 Golder completed a high-level review of QAQC data for the Yandera deposit. The review was based on data provided by Marengo that was collected between 2006 and 2010. The following is taken from the Golder 2010 QAQC report.

At Yandera, QAQC procedures include the insertion of standard samples, blank samples, coarse and pulp duplicates as well as cross laboratories checks.

Certified Reference Materials

Since December 2006 Marengo have been submitting and analysing the Cu and Au values for five standard samples as listed in Table 19-1. The standard samples were made and certified by Ore Research and Exploration Pty Ltd. Table 19-1 provides the expected mean and standard deviations.

Table 19-1: Standard Samples Submitted and the Expected Values

Std ID	Cu (ppm)		Au (ppm)	
	Mean	St Dev	Mean	St Dev
50Pb	7440	110	0.84	0.016
52Pb	3338	37	0.31	0.008
53P	4130	90	0.38	0.009
53Pb	5460	60	0.62	0.011
54Pa	15500	100	2.9	0.065

The result of Golder's analysis of the standard sample data is summarised in Table 19-2 and detailed in the following paragraphs.

Table 19-2: Result of the Analysis on the Standard Samples

Sample ID	HRD%	HARD%	Count of Samples	Comment
Cu				
50Pb	-1.30	1.56	204	Excellent precision and accuracy
52Pb	-0.31	1.60	184	Excellent precision and accuracy
53P	-1.15	2.00	54	Excellent precision and accuracy
53Pb	-1.66	2.41	230	Excellent precision and accuracy
54Pa	-2.54	2.78	58	Excellent precision and accuracy
Au				
50Pb	0.02	1.66	66	Excellent precision and accuracy
52Pb	0.54	3.50	193	Excellent precision and accuracy
53P	1.05	3.24	54	Excellent precision and accuracy
53Pb	-1.23	3.09	240	Excellent precision and accuracy
54Pa	-4.48	4.71	58	Excellent precision and accuracy

The following conclusions are made from the result of the statistical and graphical analysis of the standard samples:

- The standard samples show satisfactory global precision and accuracy.
- While the majority of the sample return with a value within the tolerance limits (±2σ), some samples shows consistent bias:
  - Samples 50Pb, 53P and 54Pa show consistent negative bias in Cu value. (Figure 19-3).
  - Sample 54Ps, shows consistent negative bias in Au values while samples 52Pb, 53P and 53Pb show consistent positive bias in Au values (Figure 19-4).
- All standard samples show an improvement in accuracy since the end of 2008.
- Molybdenum values should also be monitored by standard samples.

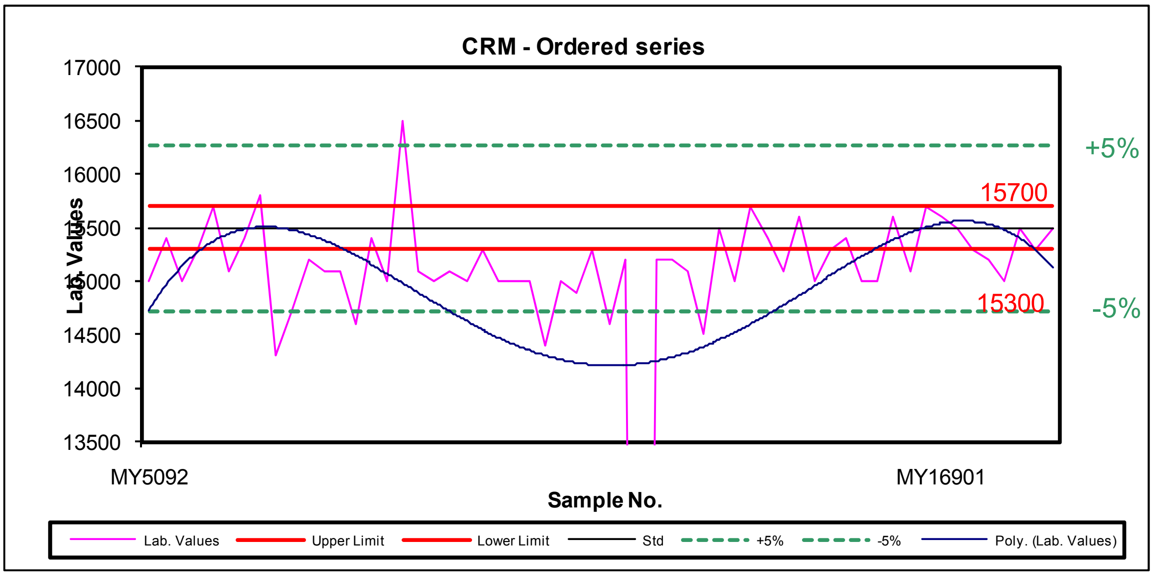


Figure 19-3: Ordered Series of Cu for Standard 54Pa

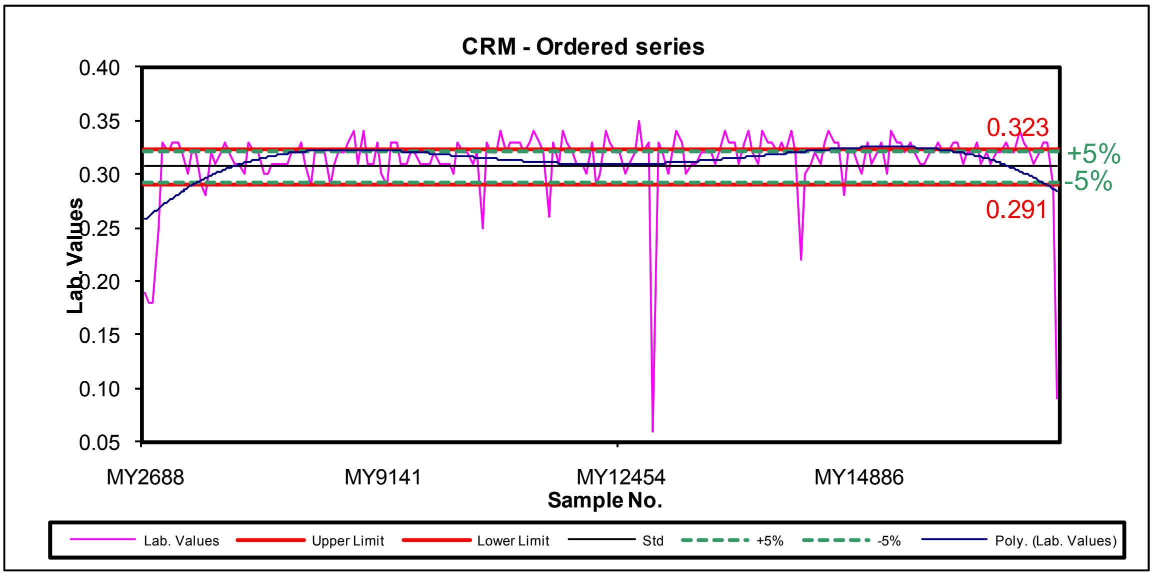


Figure 19-4: Ordered Series of Au for Standard 52Pb

Blank Samples

Marengo has been submitting and analysing the Cu and Au values for two blank samples to monitor sample contamination during the preparation and chemical analysis stage.

Both samples show satisfactory results with most samples returning values below the detection limits. There is one sample with a Cu value above the detection limit and seven samples with a Au value above the detection limit.

Duplicates

Marengo submitted two types of duplicate samples, coarse duplicates (DUP1, <2 mm) and pulp duplicates (DUP2, <75 µm). Marengo also submitted cross laboratories samples to monitor analytical bias. The result of the duplicate analysis is summarised in Table 19-3.

In general duplicate samples submitted by Marengo shows acceptable to excellent precision for Cu values and no significant bias can be observed. Although Mo, Au and Ag only show marginal precision, this level is expected due to the style of mineralisation.

Table 19-3: Result of the Analysis for the Duplicate Samples of Yandera

Sample	HRD%	HARD%	Count	Comment
DUP 1				
Cu	0.07	6.51	197	Acceptable precision and no significant bias
Au	2.14	11.84	197	Marginal precision and no significant bias
Mo	3.63	12.83	197	Marginal precision and no significant bias
Ag	0.40	10.91	309	Marginal precision and no significant bias
DUP 2				
Cu	-0.85	4.08	163	Excellent precision and no significant bias
Au	3.15	12.75	163	Marginal precision and no significant bias
Mo	-0.06	11.09	163	Marginal precision and no significant bias
Ag	-3.38	8.77	163	Acceptable precision and no significant bias
Lab Check				
Cu	0.07	1.36	1680	Excellent precision and no significant bias
Au	2.00	10.35	2761	Marginal precision and no significant bias
Mo	-0.28	7.08	1671	Marginal precision and no significant bias
Ag	0.34	5.42	1680	Acceptable precision and no significant bias

19.1.8 Geological Modelling

The alteration and mineralisation wireframes were generated from interpretation strings created on 25 m RL slices. The alteration interpretation (only defined at Gremi) uses codes within the alteration/intensity table within the supplied database to define the domain boundaries. The mineralisation interpretation uses concentric Cu cut-off grades to define the domain boundaries. These are 3000, 5000 and 7000 ppm.

The 2008 geology interpretation wireframes were used to define local geology types for bulk density assignment.

Wireframe Validation

Validation of all of the wireframes was performed by Golder using standard Vulcan check routines and by slicing sections through the individual wireframes for comparisons against the drill hole database. The process verified:

- Consistency by testing triangle edges.

- Self-intersection, by testing for self-crossing triangles.
- Correct spatial location of drill holes within the wireframe.

All wireframes passed the validation check routine and Golder considered them suitable for use in the resource estimation.

19.1.9 Block Modelling

Block model dimensions are provided in Table 19-4. The parent block size was selected so that the length and width of each block represents half of the nominal drill spacing in both the X (easting) and Y (northing) directions. The height of each block in the Z (RL) direction is the nominal bench height for the proposed mining method. Sub-blocking was used to improve the volumetric resolution of domain boundaries.

Table 19-4: Block Model Dimensions

	Easting (X)	Northing (Y)	RL (Z)
Origin	290000	9360000	0
Minimum Offset	0	2000	1150
Maximum Offset	5000	8000	2650
Parent Block Size (m)	25	25	15
Number of Blocks	200	240	100
Sub-block Size (m)	5	5	5

Domains and Codes

The wireframes of the mineralisation, alteration, weathering and geology interpretation were used to code the block model. The variables and codes used in the block model are summarised in Table 19-5 and displayed in Figure 19-5.

Table 19-5: Domain and Weathering Codes

Variable	Code	Comment
cu_dom	3000	3000 ppm to 5000 ppm Cu mineralisation
	5000	5000 ppm to 7000 ppm Cu mineralisation
	7000	>7000 ppm Cu mineralisation
mo_dom	10	10 ppm to 25 ppm Mo mineralisation
	25	>25 ppm Mo mineralisation
au_dom	1	0.1 g/t to 0.5 g/t Au mineralisation
	5	>0.5 g/t Au mineralisation
alt	1	Potassic alteration
	2	Sericitic alteration
	3	Argillic alteration
	4	Propylitic alteration (only within the Dacitic Porphry)
weath	0	Hypogene (fresh rock)
	1	Mixed material
	2	Oxide material
geology	10	Monzonite-Granodiroite
	20	Dacitic Porphry
	40	Breccia
	50	PLQ

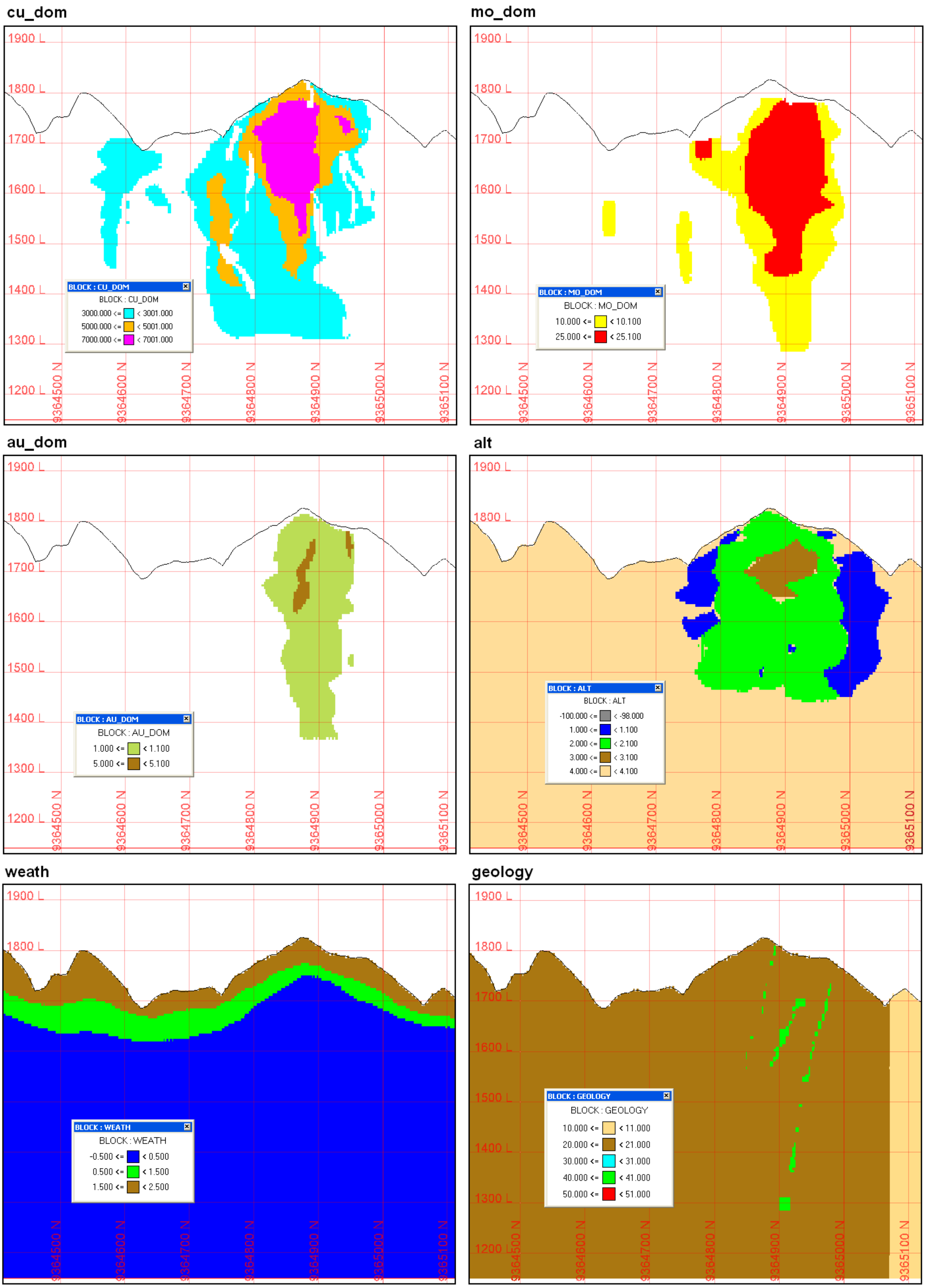


Figure 19-5: Block Model Variables and Codes

19.1.10 Statistical Analysis

Data Preparation

The Vulcan ISIS drill hole database was flagged using the geological wireframes with the same codes used for the block model construction (see Table 19-5). The flagging process was validated visually on screen in three dimensional perspective and two dimensional section views.

Compositing of samples is done to reduce the variability in the raw samples and facilitate the spatial analysis of the data and provide consistent sample support for geostatistical analyses.

In 2008, composite lengths of one metre to seven metres were generated from the data and compared (Figure 19-6). A five metre composite length was chosen as it provided the required reduction in variability while maintaining an adequate number of composites for a robust estimate. To be consistent with the 2008 Resource model, a five metre composite length was chosen for the current study.

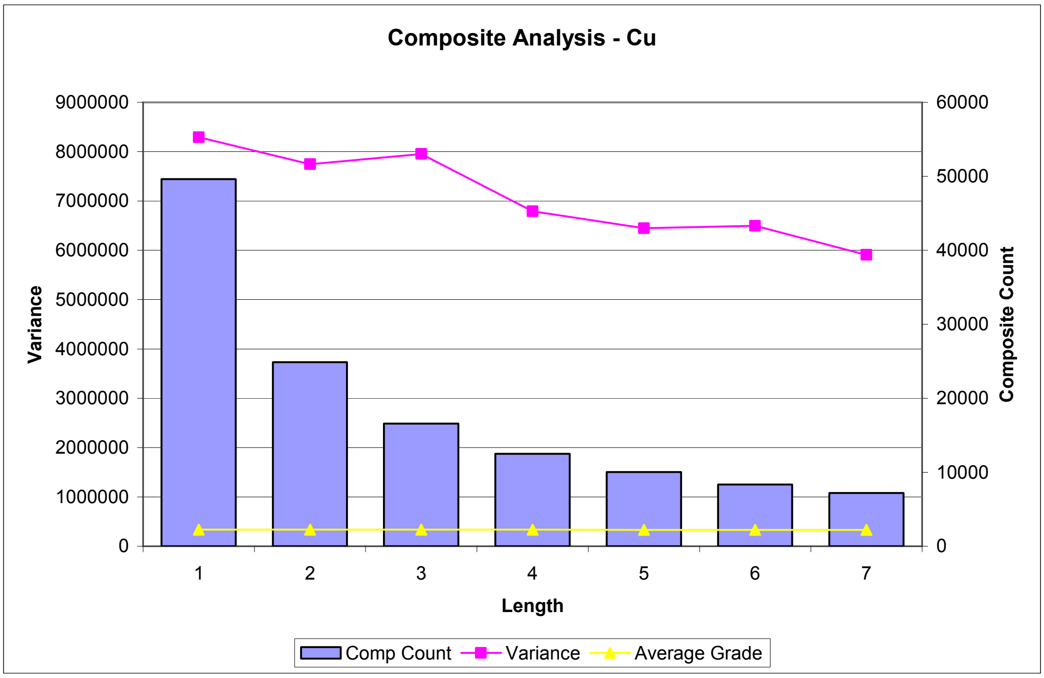


Figure 19-6: Composite Analysis, Golder 2008

Univariate Statistics

Univariate statistics were performed for all data within each mineralisation, alteration and weathering domain combination.

Table 19-6 through to Table 19-9 contain length weighted statistics for elements Cu, Mo, Au and Ag using a 0.001 ppm (or g/t) cut off grade. Note that Ag is analysed within the Au domains.

Table 19-6: Univariate Statistics for Cu

WEATH	CU_DOM	ALT	No.Obs.	Minimum (ppm)	Maximum (ppm)	Mean (ppm)
Hypogene	3000	Potassic	136	101.4	10460.0	2788.8
		Sericitic	544	48.8	20660.0	3336.5
		Argillic	56	233.2	17140.0	2846.7
	5000	Potassic	107	339.0	31800.0	4009.6
		Sericitic	352	340.6	29420.0	3983.1
		Argillic	134	154.6	15464.0	3991.8
	7000	Potassic	81	595.2	25616.0	6020.7
		Sericitic	415	665.4	20516.0	5458.0
		Argillic	72	1800.0	20280.0	7511.8
	Global		1897	48.8	31800.0	4221.7
Mixed	3000	Potassic	23	121.0	7008.0	2719.1
		Sericitic	25	191.6	5850.0	2202.7
		Argillic	6	361.8	4854.0	1666.3
	5000	Potassic	22	1180.0	8896.0	3446.2
		Sericitic	52	999.6	8610.0	3995.2
		Argillic	23	1437.4	10362.0	4401.6
	7000	Potassic	25	1011.6	16396.0	7170.5
		Sericitic	86	1149.4	44340.0	5904.9
		Argillic	1	8600.0	8600.0	8600.0
	Global		263	121.0	44340.0	4578.6
Oxide	3000	Potassic	6	355.0	3014.0	1451.6
		Sericitic	33	78.0	5200.0	2111.8
		Argillic	10	795.0	4034.0	2423.7
	5000	Potassic	14	1100.0	8800.0	3513.4
		Sericitic	93	664.2	10212.0	3328.8
		Argillic	9	1594.0	3920.0	2509.1
	7000	Potassic	27	857.6	25630.4	7139.1
		Sericitic	93	1136.0	21918.0	7105.0
		Argillic	9	2490.0	13732.0	5794.9
	Global		294	78.0	25630.4	4682.2
All	3000	Potassic	165	101.4	10460.0	2735.5
		Sericitic	602	48.8	20660.0	3220.7
		Argillic	72	233.2	17140.0	2683.5
	5000	Potassic	143	339.0	31800.0	3875.1
		Sericitic	497	340.6	29420.0	3860.3
		Argillic	166	154.6	15464.0	3967.2
	7000	Potassic	133	595.2	25630.4	6454.2
		Sericitic	594	665.4	44340.0	5776.6
		Argillic	82	1800.0	20280.0	7341.9
	Global		2454	48.8	44340.0	4314.8

Table 19-7: Univariate Statistics for Mo

WEATH	MO_DOM	ALT	No.Obs.	Minimum (ppm)	Maximum (ppm)	Mean (ppm)
Hypogene	10	Potassic	197	1.8	1370.0	81.9
		Sericitic	746	0.5	2993.6	102.7
		Argillic	30	6.2	287.0	71.8
	25	Potassic	150	10.8	2022.4	269.3
		Sericitic	791	0.5	4444.0	209.8
		Argillic	286	11.6	4170.0	365.6
	Global		2200	0.5	4444.0	183.8
Mixed	10	Potassic	31	1.5	195.6	65.5
		Sericitic	73	0.5	569.4	80.5
		Argillic	11	15.3	309.2	90.3
	25	Potassic	27	28.8	1348.5	245.6
		Sericitic	85	11.2	1000.0	252.8
		Argillic	13	43.6	1070.0	428.5
	Global		240	0.5	1348.5	177.0
Oxide	10	Potassic	10	23.2	1000.0	274.1
		Sericitic	61	1.0	438.4	71.7
		Argillic	7	0.5	57.8	33.1
	25	Potassic	4	35.2	1000.0	440.5
		Sericitic	76	0.5	1439.0	212.8
		Argillic	18	7.0	471.6	121.3
	Global		176	0.5	1439.0	154.5
All	10	Potassic	238	1.5	1370.0	87.4
		Sericitic	880	0.5	2993.6	98.7
		Argillic	48	0.5	309.2	70.3
	25	Potassic	181	10.8	2022.4	269.2
		Sericitic	952	0.5	4444.0	213.9
		Argillic	317	7.0	4170.0	354.4
	Global		2616	0.5	4444.0	181.2

Table 19-8: Univariate Statistics for Au

WEATH	AU_DOM	ALT	No.Obs.	Minimum (ppm)	Maximum (ppm)	Mean (ppm)
Hypogene	1	Potassic	113	0.001	0.653	0.096
		Sericitic	818	0.001	0.801	0.121
		Argillic	184	0.014	1.374	0.166
	5	Potassic	2	0.335	0.544	0.370
		Sericitic	3	0.194	0.796	0.402
		Argillic	21	0.060	0.742	0.279
	Global		1141	0.001	1.374	0.130
Mixed	1	Potassic	20	0.036	1.029	0.204
		Sericitic	105	0.021	0.760	0.125
		Argillic	11	0.058	0.360	0.148
	5	Sericitic	8	0.026	0.123	0.056
		Argillic	1	0.083	0.083	0.083
	Global		145	0.021	1.029	0.134
oxide	1	Potassic	18	0.125	0.670	0.343
		Sericitic	164	0.019	1.013	0.191
		Argillic	21	0.029	0.513	0.139
	5	Sericitic	6	0.139	0.762	0.315
		Argillic	1	0.071	0.071	0.071
	Global		210	0.019	1.013	0.201
All	1	Potassic	151	0.001	1.029	0.138
		Sericitic	1087	0.001	1.013	0.132
		Argillic	216	0.014	1.374	0.162
	5	Potassic	2	0.335	0.544	0.370
		Sericitic	17	0.026	0.796	0.216
		Argillic	23	0.060	0.742	0.262
	Global		1496	0.001	1.374	0.140

Table 19-9: Univariate Statistics for Ag

WEATH	AU_DOM	ALT	No.Obs.	Minimum (ppm)	Maximum (ppm)	Mean (ppm)
Hypogene	1	Potassic	115	0.005	9.540	1.885
		Sericitic	836	0.005	12.240	1.868
		Argillic	197	0.005	8.740	1.664
	5	Potassic	2	2.780	3.800	2.950
		Sericitic	3	2.140	9.960	5.207
		Argillic	21	0.800	9.100	2.886
	Global		1174	0.005	12.240	1.864
Mixed	1	Potassic	20	1.320	5.860	3.069
		Sericitic	105	0.350	14.360	2.018
		Argillic	12	0.302	2.126	1.094
	5	Sericitic	8	0.362	1.400	0.800
		Argillic	1	3.200	3.200	3.200
	Global		146	0.302	14.360	2.027
Oxide	1	Potassic	18	0.800	12.200	3.642
		Sericitic	165	0.212	11.200	2.609
		Argillic	22	0.580	5.480	2.102
	5	Sericitic	6	1.280	2.960	1.837
		Argillic	1	3.140	3.140	3.140
	Global		212	0.212	12.200	2.613
All	1	Potassic	153	0.005	12.200	2.236
		Sericitic	1106	0.005	14.360	1.993
		Argillic	231	0.005	8.740	1.675
	5	Potassic	2	2.780	3.800	2.950
		Sericitic	17	0.362	9.960	2.000
		Argillic	23	0.800	9.100	2.909
	Global		1532	0.005	14.360	1.983

19.1.11 Geostatistics

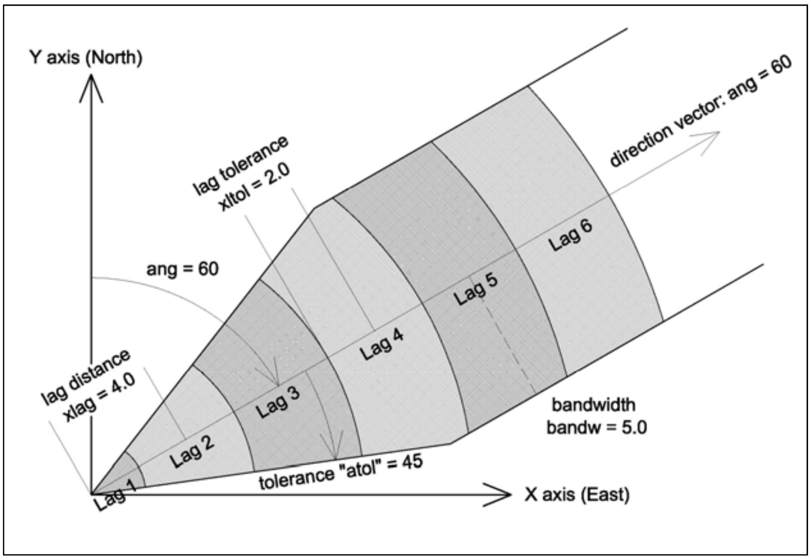
Variography Objectives and Approach

Variographic analysis was carried out to model the spatial continuity within the mineralised zones.

Variography was based on the five metre composited data. Variograms were generated with a 50 m lag interval, in 25 m increments horizontally and 25 m increments vertically to provide complete vector coverage in 3D. An overview of the variography procedure used is as follows:

- Correlograms were used as these generally produced the clearest variogram structure for all variables compared to other spatial continuity measures.
- Variography was carried out for Cu, Mo, au and Ag.
- The nugget variances were modelled from downhole variograms based on a 5 m lag, reflecting the downhole composite spacing. The downhole variogram model provided the most accurate interpretation of the nugget effect due to the closer sample spacing.

Directional variography requires search tolerances to be used for calculation of variograms, to address the fact that the drill hole samples are not perfectly aligned in 3D space, and are not equally spaced in any direction. This requires the use of angular and distance tolerances. The tolerances used for directional variogram calculation are provided in Table 19-10. Figure 19-7 illustrates the relationship between the angular and distance tolerances with respect to the direction in which the variogram is required to be calculated.



Note: The tolerance values on this image are generic. Actual values used are provided in Table 19-10.

Figure 19-7: Variogram Search Tolerances

Table 19-10: Parameters Use for Variogram Generation

All West Blocks (1-5)

Parameter	Value
Start Azimuth (ang)	0
End Azimuth	180
Step Azimuth	5
Start Plunge	-90
End Plunge	90
Step Plunge	5
Horizontal Angle Tolerance (**atol**)	25
Vertical Angle Tolerance (**vtol**)	10
Horizontal Distance Bandwidth (**bandw**)	200
Vertical Distance Bandwidth	5
Lag Distance (**xlag**)	50
Lag Tolerance (**xltol**)	25

Note: Azimuth (horizontal direction vector) is defined as a clockwise bearing from grid north (0°). Plunge (vertical direction vector) is defined from the horizontal plane (0°), where a negative plunge is down and positive is up.

Variography Modelling Strategy

Selection and modelling of variogram orientations was based on the following methodology:

- Selection of the two orthogonal orientations which reflect the interpreted major and semi-major axes of continuity.

- The major, semi-major and minor orthogonal directions of continuity were modelled using a spherical scheme model.

Variography was carried out for each estimation domain. Orientations for each domain are summarised in Table 19-11 to Table 19-13.

Table 19-11: Variogram Orientations for the Hypogene Domain

Weath	Alteration	Domain	Major Axis		Semi-major Axis	
Hypogene	Potassic	Cu (3000, 5000 and 7000)	140/0		50/-90	
		Mo (10 and 25)	135/0		45/-90	
		Au (0.1 and 0.5)	Au 140/0	Ag 115/0	Au 50/-90	Ag 25/-90
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
	Argillic	Cu (3000, 5000 and 7000)	105/0		15/-90	
		Mo (10 and 25)	125/0		35/-90	
		Au (0.1 and 0.5)	Au 130/0	Ag 135/0	Au 40/-90	Ag 45/-90
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
	Sericitic	Cu (3000, 5000 and 7000)	115/0		25/-90	
		Mo (10 and 25)	125/0		35/-90	
		Au (0.1 and 0.5)	Au 130/0	Ag 140/0	Au 40/-90	Ag 50/-90
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
	Propylitic	Cu (3000, 5000 and 7000)	140/0		50/-90	
		Mo (10 and 25)	145/0		55/-90	
		Au (0.1 and 0.5)	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 145/0	Ag 145/0

Note: Ag was modelled within the Au domains

Table 19-12: Variogram Orientations for the Mixed Domain

Weath	Alteration	Domain	Major Axis		Semi-major Axis	
Mixed	Potassic	Cu (3000, 5000 and 7000)	140/0		50/0	
		Mo (10 and 25)	135/0		45/0	
		Au (0.1 and 0.5)	Au 140/0	Ag 115/0	Au 50/0	Ag 25/0
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
	Argillic	Cu (3000, 5000 and 7000)	105/0		15/0	
		Mo (10 and 25)	125/0		35/0	
		Au (0.1 and 0.5)	Au 130/0	Ag 135/0	Au 40/0	Ag 45/0
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
	Sericitic	Cu (3000, 5000 and 7000)	120/0		30/0	
		Mo (10 and 25)	145/0		55/0	
		Au (0.1 and 0.5)	Au 125/0	Ag 145/0	Au 35/0	Ag 55/0
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
	Propylitic	Cu (3000, 5000 and 7000)	130/0		40/0	
		Mo (10 and 25)	140/0		50/0	
		Au (0.1 and 0.5)	Au 130/0	Ag 150/0	Au 40/0	Ag 60/0
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90

Note: Where the Semi-major axis dip is 0 an unfolding algorithm was used to follow the trend of the oxide surface wireframe. Ag was modelled within the Au domains.

Table 19-13: Variogram Orientations for the Oxide Domain

Weath	Alteration	Domain	Major Axis		Semi-major Axis	
Oxide	Potassic	Cu (3000, 5000 and 7000)	140/0		50/0	
		Mo (10 and 25)	135/0		45/0	
		Au (0.1 and 0.5)	Au 140/0	Ag 115/0	Au 50/0	Ag 25/0
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
	Argillic	Cu (3000, 5000 and 7000)	105/0		15/0	
		Mo (10 and 25)	125/0		35/0	
		Au (0.1 and 0.5)	Au 130/0	Ag 135/0	Au 40/0	Ag 45/0
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
	Sericitic	Cu (3000, 5000 and 7000)	140/0		50/0	
		Mo (10 and 25)	155/0		65/0	
		Au (0.1 and 0.5)	Au 140/0	Ag 120/0	Au 50/0	Ag 30/0
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90
	Propylitic	Cu (3000, 5000 and 7000)	140/0		50/0	
		Mo (10 and 25)	145/0		55/0	
		Au (0.1 and 0.5)	Au 120/0	Ag 120/0	Au 30/0	Ag 30/0
		Background Cu	140/0		50/-90	
		Background Mo	145/0		55/-90	
		Background Au	Au 145/0	Ag 145/0	Au 55/-90	Ag 55/-90

Note: Where the Semi-major axis dip is 0 an unfolding algorithm was used to follow the trend of the oxide surface wireframe. Ag was modelled within the Au domains.

19.1.12 Grade Interpolation

Grade estimation for the four variables Cu, Mo, Au and Ag was carried out using the geostatistical method of Ordinary Kriging (OK), which uses model parameters from the variography. The interpolated block model is *yan0211_ok.bmf*.

Estimation Panel Sizes

The block model uses a parent block size of 25 m by 25 m by 15 m with sub-blocking of 5 m by 5 m by 5 m. The parent block size selection was based on half the nominal drill hole spacing. The estimation was made in to the parent block, with sub-blocks receiving the parent block estimate.

Kriging Plan

Details of the kriging plan and general estimation implementation are as follows:

- A two-pass kriging plan was used with an octant search for all estimation groups. The second pass was used to krige remaining blocks that were un-estimated by the first pass.
- Block discretisation was set to 4 (X) by 4 (Y) by 3 (Z) to estimate block grades of 25 m by 25 m by 15 m (parent blocks). Sub-blocks of 5 m by 5 m by 5 m received the parent cell estimate.

- Estimates used a minimum of two composites and a maximum of 32 composites. A limit of five samples per drill hole was applied.
- Length-weighting was applied to compensate for variations in composite length.
- The estimation was run without any grade cutting or spatial restraining because analysis of log probability plots for each estimation domain showed no population outliers.

Table 19-14: Kriging Plan Parameters

Parameter		Details
Estimation Method		Ordinary Kriging
Search radius	X radius (Pass 1/2)	150/300
	Y radius (Pass 1/2)	150/300
	Z radius (Pass 1/2)	25/100
Anisotropy		Variogram
Discretisation (X/Y/Z)		4/4/3
Search type		Octant
Minimum No. samples (pass 1/2)		2/2
Maximum No. samples (pass1/2)		32/32
Maximum No. samples per hole		5

19.1.13 Validation of Grade Estimates

Statistical and visual assessment of the block models was undertaken to assess the successful application of the estimation passes. This was to ensure that as far as the data allowed, all blocks within the mineralised domains were estimated and the model estimates were considered representative of the raw data.

Statistical validations involved checking the reproduction of mean grades. Descriptive statistics, swath, scatter and QQ plots were generated for each domain and were used to assess the block model estimates for global bias; the estimates should have a close relationship to the drill hole composite data used for estimation.

Separate swath plots were produced for Cu, Mo, Au and Ag. Swath plots are generated by averaging both the blocks and composites in panels of 100 m (easting) by 100 m (northing) by 60 m (RL). The relationship between model and sample panel averages was also assessed in the form of scatter plots and QQ plots. Table 19-15 through to Table 19-17 and Figure 19-8 and Figure 19-9 illustrate typical results from these checks.

An onscreen validation between samples and blocks was also completed. The onscreen validation process involved comparing block estimates and composite grades in cross section and in plan. The model compared favourably with data values and honoured the continuity as imposed by the variography. Figure 19-10 through to Figure 19-13 illustrate the onscreen validation.

While there are some mismatches between mean sample and estimated grades, that are likely the result of low sample numbers or clustering of samples, Golder finds the results of the block model validation process reasonable and considers the estimated block model acceptable.

Table 19-15: Estimation Validation: 5 m Composites vs. Block Model (Cu_dom)

Marengo Cu

Cu_dom	WEATH	ALT	Data				OK				OK/DH(%)[1]
			No.	Min	Max	Mean	No.	Min	Max	Mean	
3000	Oxide	1	128	101.40	10460.00	2909.88	5365	173.32	6551.11	2957.12	102
		2	529	34.40	26124.00	3302.42	10359	98.65	8651.41	3351.72	101
		3	64	233.20	9976.00	2736.05	1873	718.75	6546.90	2919.99	107
		4	2780	25.00	21560.00	2395.78	84717	128.16	8589.15	2384.73	100
	Mixed	1	26	82.80	7008.00	2805.66	489	1325.81	4189.96	2782.94	99
		2	26	678.00	5850.00	2250.22	889	1100.24	4306.77	2227.70	99
		3	7	361.80	4854.00	1621.66	402	785.86	3335.63	2025.40	125
		4	595	1.00	15548.00	2462.12	21887	644.87	7298.03	2537.95	103
	Hypogene	1	6	355.00	3014.00	1451.64	550	525.89	2675.54	1288.81	89
		2	32	521.60	5200.00	2176.16	960	626.19	3569.07	2210.20	102
		3	10	795.00	4034.00	2423.70	428	1500.93	3437.13	2893.38	119
		4	550	218.60	12401.60	2040.68	14838	449.54	8063.72	2008.47	98
5000	Oxide	1	118	760.00	31800.00	4130.06	2631	1523.16	9417.19	3914.43	95
		2	351	391.00	29420.00	4029.90	5835	1375.70	9644.17	3997.36	99
		3	128	154.60	15464.00	4051.99	1488	1378.06	10425.22	4106.30	101
		4	1386	113.08	26060.00	4285.23	23139	407.85	12373.08	4279.30	100
	Mixed	1	18	1180.00	8896.00	3473.58	439	1907.16	4527.50	3255.57	94
		2	49	999.60	8610.00	3973.21	1016	2517.40	6559.81	3923.34	99
		3	24	1437.40	10361.99	4406.55	243	2913.63	7191.06	4164.21	95
		4	293	488.00	53444.80	5597.02	5627	1428.02	18177.81	5524.28	99
	Hypogene	1	13	1100.00	8800.00	3516.05	289	1945.15	7269.08	3636.94	103
		2	94	664.20	10212.00	3303.10	1379	1814.35	7397.35	3063.95	93
		3	9	1594.00	3920.00	2509.11	120	2026.18	2813.18	2488.92	99

Marengo Cu

Cu_dom	WEATH	ALT	Data				OK				OK/DH(%)[1]
			No.	Min	Max	Mean	No.	Min	Max	Mean	
		4	105	70.00	24926.00	3989.62	2870	788.91	13501.64	3718.39	93
7000	Oxide	1	92	595.20	29960.00	5713.99	1218	1592.83	13083.25	6300.24	110
		2	424	665.40	20516.00	5423.31	3243	2729.57	10258.41	5472.99	101
		3	68	1390.00	20280.00	7504.44	581	2313.84	15995.81	6937.08	92
		4	22	1604.00	22480.00	8033.64	192	3266.68	16494.13	9204.04	115
	Mixed	1	25	1011.60	16396.00	7170.54	319	3446.61	10882.97	6875.85	96
		2	84	1149.40	44340.00	5975.04	912	3349.95	12735.23	6402.95	107
		3	2	4560.00	7792.00	6868.57	8	6604.74	6929.42	6780.26	99
		1	26	857.60	25630.40	7191.67	199	1994.97	9648.13	5078.80	71
		2	94	1136.00	21918.00	7055.17	752	2841.09	10518.72	6723.77	95
		3	8	2816.00	13732.00	6055.79	61	4983.05	8165.88	6357.33	105
		4	7	3982.00	8912.50	6127.20	104	5524.42	7496.91	6418.94	105

Table 19-16: Estimation Validation: 5 m Composites vs. Block Model (Mo_dom)

Marengo Mo

Mo_dom	WEATH	ALT	Data				OK				OK/DH(%)[1]
			No.	Min	Max	Mean	No.	Min	Max	Mean	
10	Oxide	1	217	3	1370	83.72	6998	3	505.876	89.53	107
		2	716	0.5	2828.4	101.97	12468	21.593	653.477	115.68	113
		3	28	6.2	287.038	74.02	1087	20.082	165.5	71.88	97
		4	2015	0.5	4340	108.49	52261	0.5	1458.389	101.50	94
	Mixed	1	32	1.5	195.6	62.92	937	14.721	126.566	63.36	101
		2	69	0.5	569.4	75.86	1460	15.509	416.626	89.13	117
		3	10	15.25	309.2	87.81	456	21.555	175.517	70.57	80
		4	385	0.5	958.8	85.60	9546	3.145	411.052	87.41	102
	Hypogene	1	10	23.22	1000	274.09	367	29.672	766.46	151.40	55
		2	61	1	438.4	72.01	1242	11.348	190.403	61.48	85
		3	8	0.5	115.4	43.40	401	24.195	80.831	48.94	113
		4	159	0.5	388.2	64.90	4475	1.439	288.346	76.61	118
25	Oxide	1	155	10.8	2022.4	264.72	3275	41.214	940.479	310.53	117
		2	791	0.5	3942	212.94	10477	9.991	1191.713	215.16	101
		3	283	11.6	4170	362.03	3616	24.761	1694.123	318.17	88
		4	993	0.5	8291.776	230.05	10366	23.913	3283.631	261.22	114
	Mixed	1	26	28.76	1348.54	246.60	287	49.337	827.074	336.15	136
		2	84	11.2	1000	251.97	1190	44.698	499.05	269.97	107
		3	15	43.6	1070	447.11	329	87.08	764.734	403.64	90
		4	224	0.5	2869.131	168.53	2640	33.13	896.089	162.70	97
	Hypogene	1	4	35.2	1000	440.47	17	294.374	721.587	475.95	108
		2	77	0.5	1439	212.89	681	52.212	497.501	227.68	107
		3	17	7	471.6	119.21	198	26.254	252.037	140.05	117

Marengo Mo

Mo_dom	WEATH	ALT	Data				OK				OK/DH(%)[1]
			No.	Min	Max	Mean	No.	Min	Max	Mean	
		4	34	0.5	968.4	258.24	340	14.786	593.259	146.53	57

Table 19-17: Estimation Validation: 5 m Composites vs. Block Model (Au_dom)

Marengo Au

VARIABLE	Au_dom	WEATH	ALT	Data (clustered)				OK				*OK/DH(%)*[1]
				No.	Min	Max	Mean	No.	Min	Max	Mean	
Au	0.1	0	1	114	0.001	0.653	0.10	2843	0.034	0.448	0.10	102
			2	824	0.001	0.801	0.12	11268	0.043	0.46	0.12	102
			3	191	0.016	1.343	0.16	2244	0.034	0.73	0.15	94
			4	1287	0.007	2.46	0.13	32087	0.01	0.922	0.14	108
		1	1	20	0.036	1.029	0.20	402	0.058	0.373	0.15	74
			2	106	0.021	0.76	0.13	1610	0.052	0.364	0.12	95
			3	12	0.058	0.522	0.17	232	0.099	0.334	0.18	109
			4	362	0.01	2.738	0.15	7817	0.022	1.057	0.17	116
		2	1	18	0.125	0.67	0.34	158	0.125	0.437	0.26	74
			2	165	0.019	1.013	0.19	1837	0.062	0.374	0.17	89
			3	20	0.029	0.686	0.14	301	0.066	0.254	0.13	99
			4	231	0.007	1.37	0.17	4606	0.012	0.648	0.17	104
	0.5	0	1	3	0.089	0.383	0.22	6	0.169	0.183	0.18	81
			2	6	0.037	0.796	0.29	271	0.102	0.583	0.38	130
			3	18	0.06	0.742	0.28	208	0.118	0.495	0.26	92
			4	230	0.014	3.697	0.28	7204	0.05	1.202	0.26	94
		1	2	9	0.026	0.132	0.07	54	0.06	0.088	0.08	104
			3	2	0.109	0.211	0.14	*	*	*	*	*
			4	92	0.015	2.231	0.36	1749	0.021	1.012	0.31	85
		2	2	7	0.139	0.762	0.37	8	0.225	0.485	0.36	95
			3	1	0.071	0.071	0.07	*	*	*	*	*
			4	82	0.04	1.205	0.31	1133	0.101	0.592	0.31	98

Marengo Au

VARIABLE	Au_dom	WEATH	ALT	Data (clustered)				OK				OK/DH(%)[1]
				No.	Min	Max	Mean	No.	Min	Max	Mean	
Ag	0.1	0	1	116	0.005	9.54	1.93	2834	0.282	5.541	2.31	119
			2	842	0.005	12.24	1.84	11268	0.365	5.048	1.77	96
			3	204	0.005	6.48	1.74	2255	0.289	4.312	1.51	87
			4	1304	0.005	15.2	1.51	32087	0.005	7.84	1.46	97
		1	1	20	1.32	5.86	3.14	430	1.988	4.792	2.82	90
			2	106	0.203	14.36	1.98	1612	0.828	5.516	1.93	98
			3	13	0.302	2.126	1.14	234	0.661	1.413	1.11	97
			4	371	0.005	33.266	1.66	7821	0.284	7.787	1.70	103
		2	1	18	0.8	12.2	3.64	160	1.675	7.903	5.16	142
			2	166	0.212	11.2	2.60	1823	1.087	6.003	2.57	99
			3	21	0.58	5.48	2.13	301	0.988	3.496	1.74	82
			4	231	0.005	12.88	1.17	4606	0.005	9.769	1.68	144
	0.5	0	1	3	1.26	2.96	1.98	5	1.934	1.949	1.94	98
			2	6	1.4	9.96	4.39	271	3.017	6.519	5.07	115
			3	18	0.8	7.32	2.63	208	1.61	4.173	2.57	98
			4	230	0.005	28.64	2.13	7204	0.151	9.236	1.90	89
		1	2	9	0.283	2.54	1.19	54	0.775	1.809	1.15	96
			3	2	1.5	2.86	2.47	*	*	*	*	*
			4	93	0.005	7.9	2.05	1797	0.369	4.273	1.82	89
		2	2	7	1.28	4.36	2.20	16	1.453	2.698	1.86	84
			3	1	3.14	3.14	3.14	*	*	*	*	*
			4	82	0.005	8.15	1.19	1133	0.198	4.38	1.04	88

* No estimation - too few samples.

Golder Associates

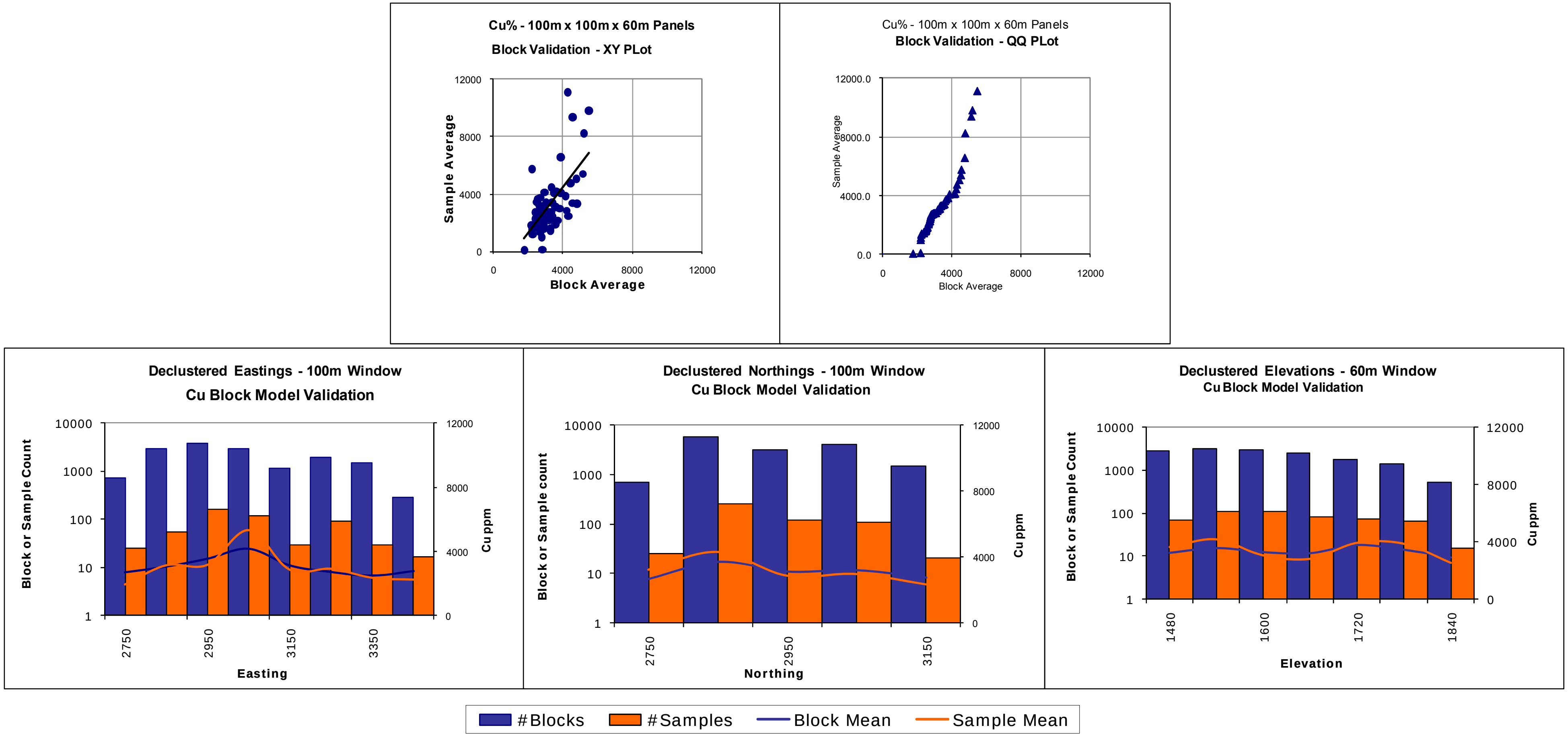


Figure 19-8: Validation: Swath Plots for Cu Estimation (Cu_dom=3000, Potassic Alteration, Hypogene Domain)

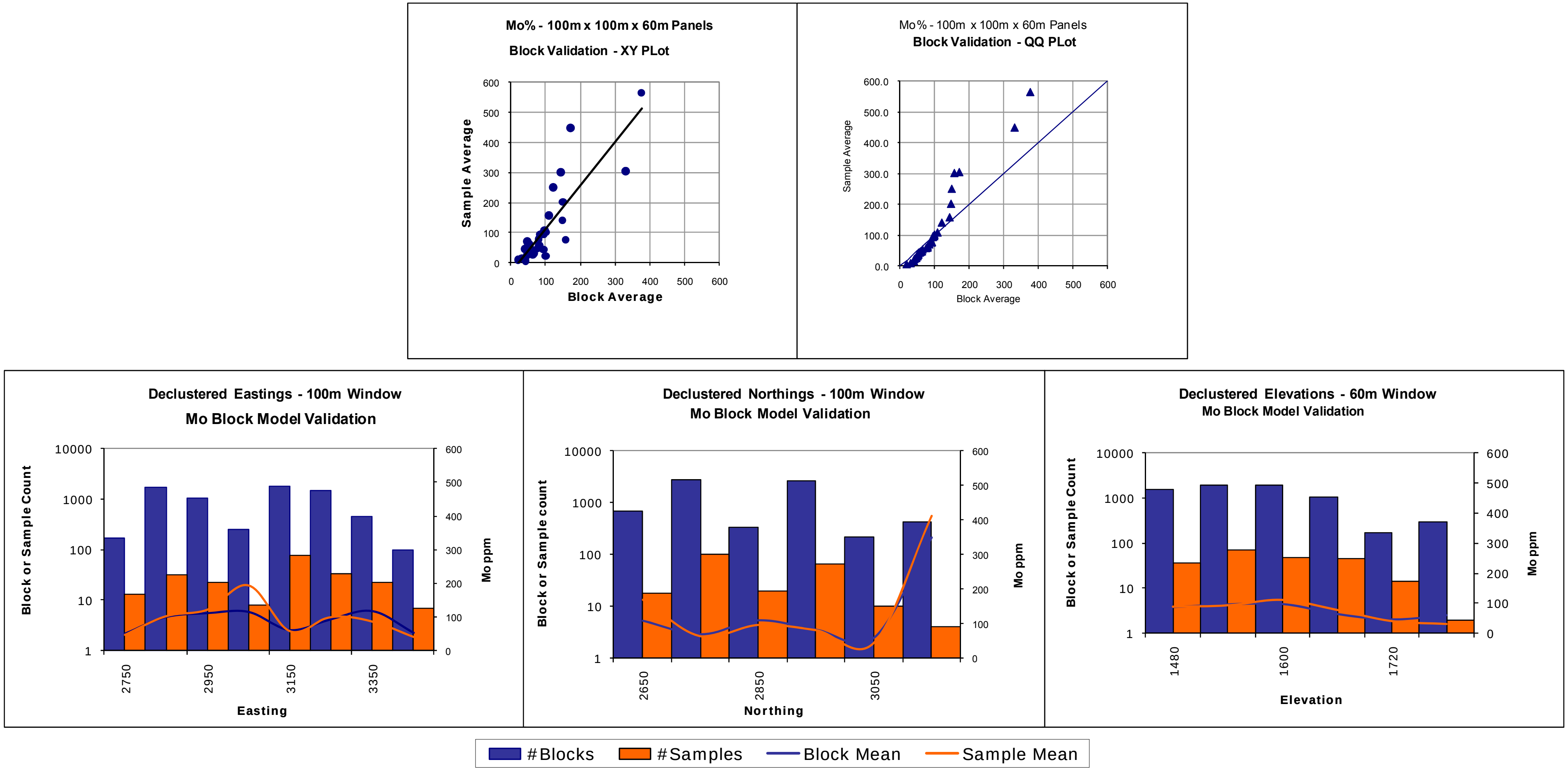


Figure 19-9: Validation: Swath Plots for Mo Estimation (Mo_dom=10, Potassic Alteration, Hypogene Domain)

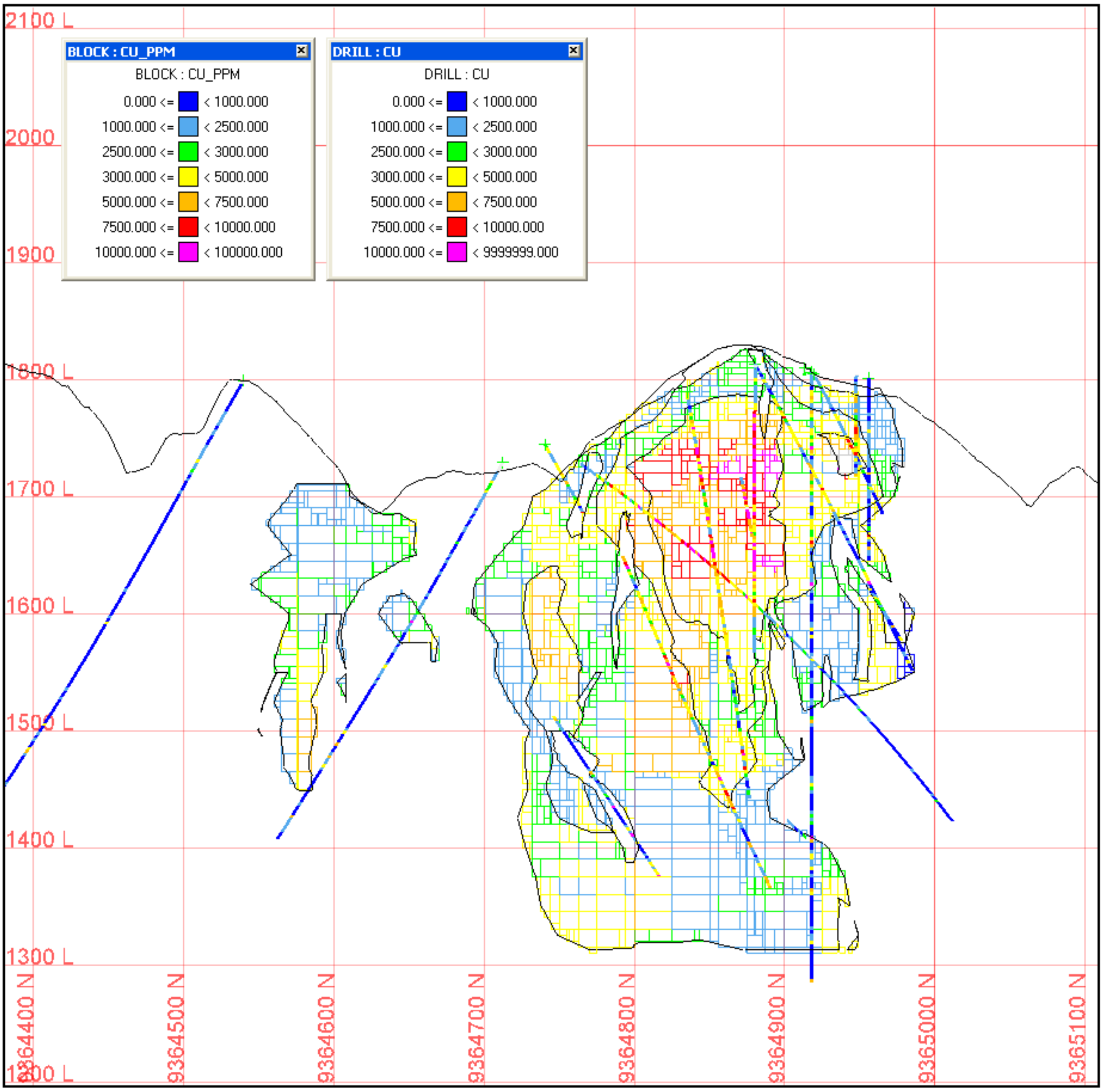


Figure 19-10: Onscreen Validation: Blocks vs. Geological Model (Cu in all Cu domains)

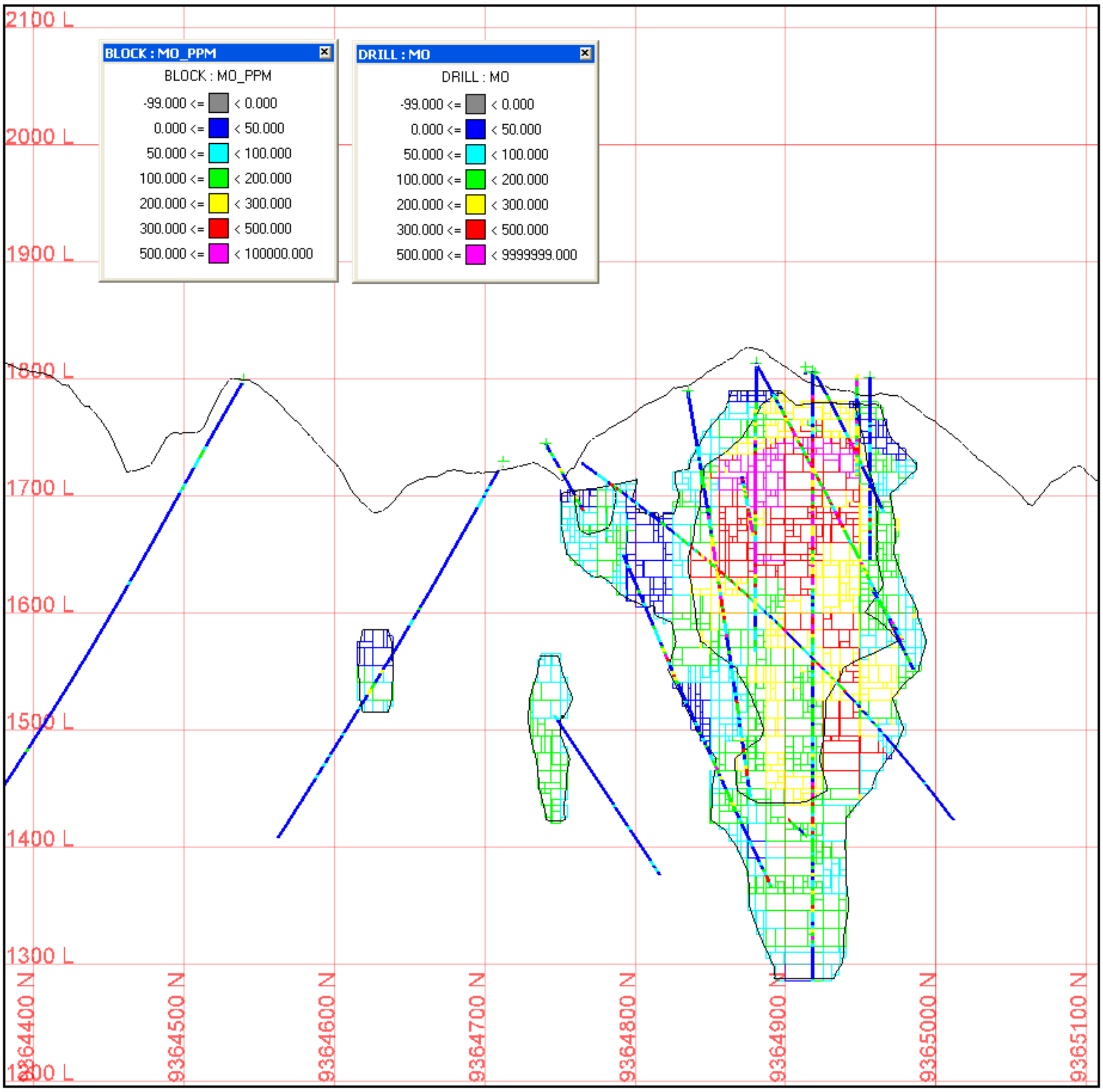


Figure 19-11: Onscreen Validation: Blocks vs. Geological Model (Mo in all Mo domains)

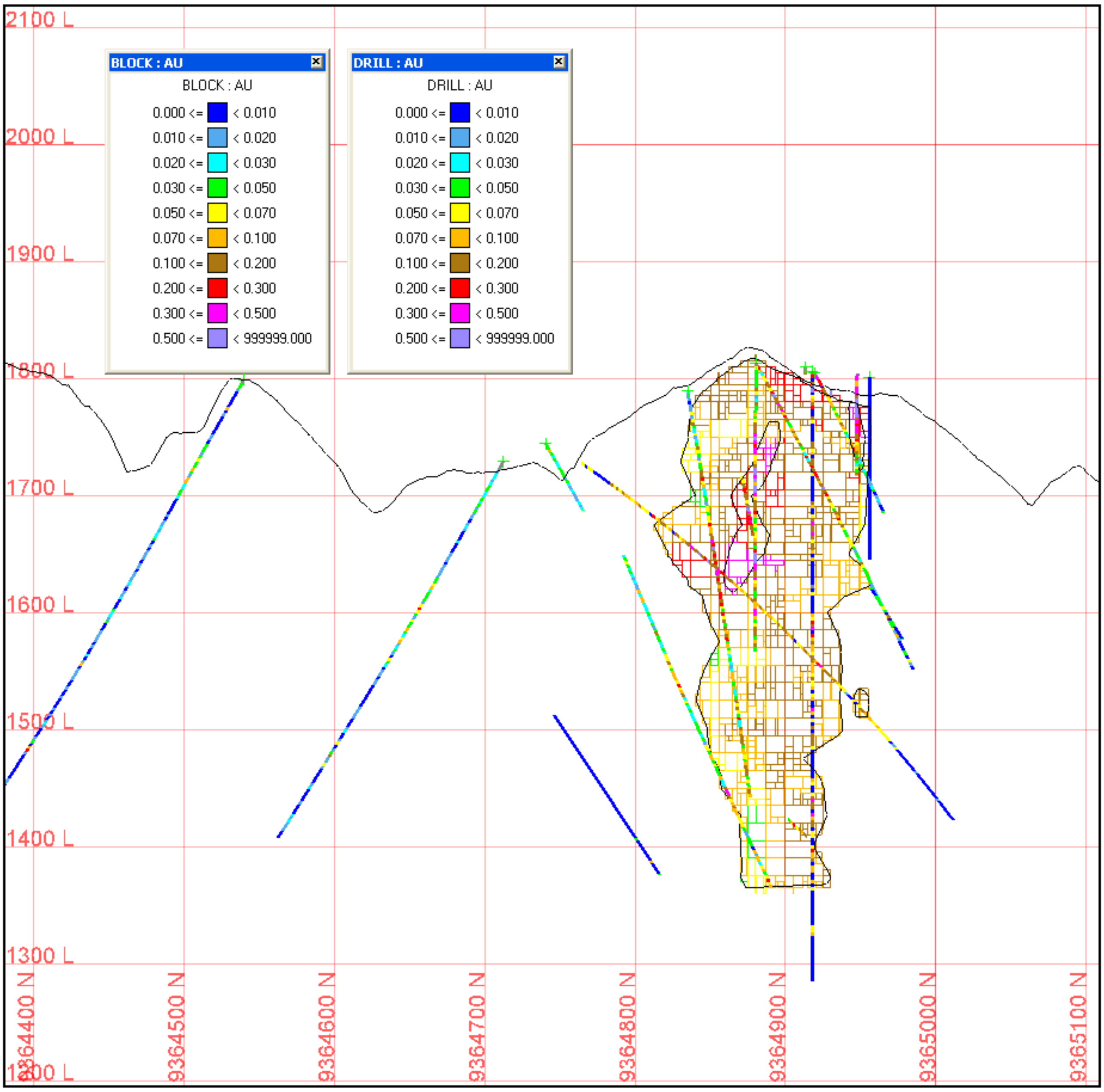


Figure 19-12: Onscreen Validation: Blocks vs. Geological Model (Au in all Au domains)

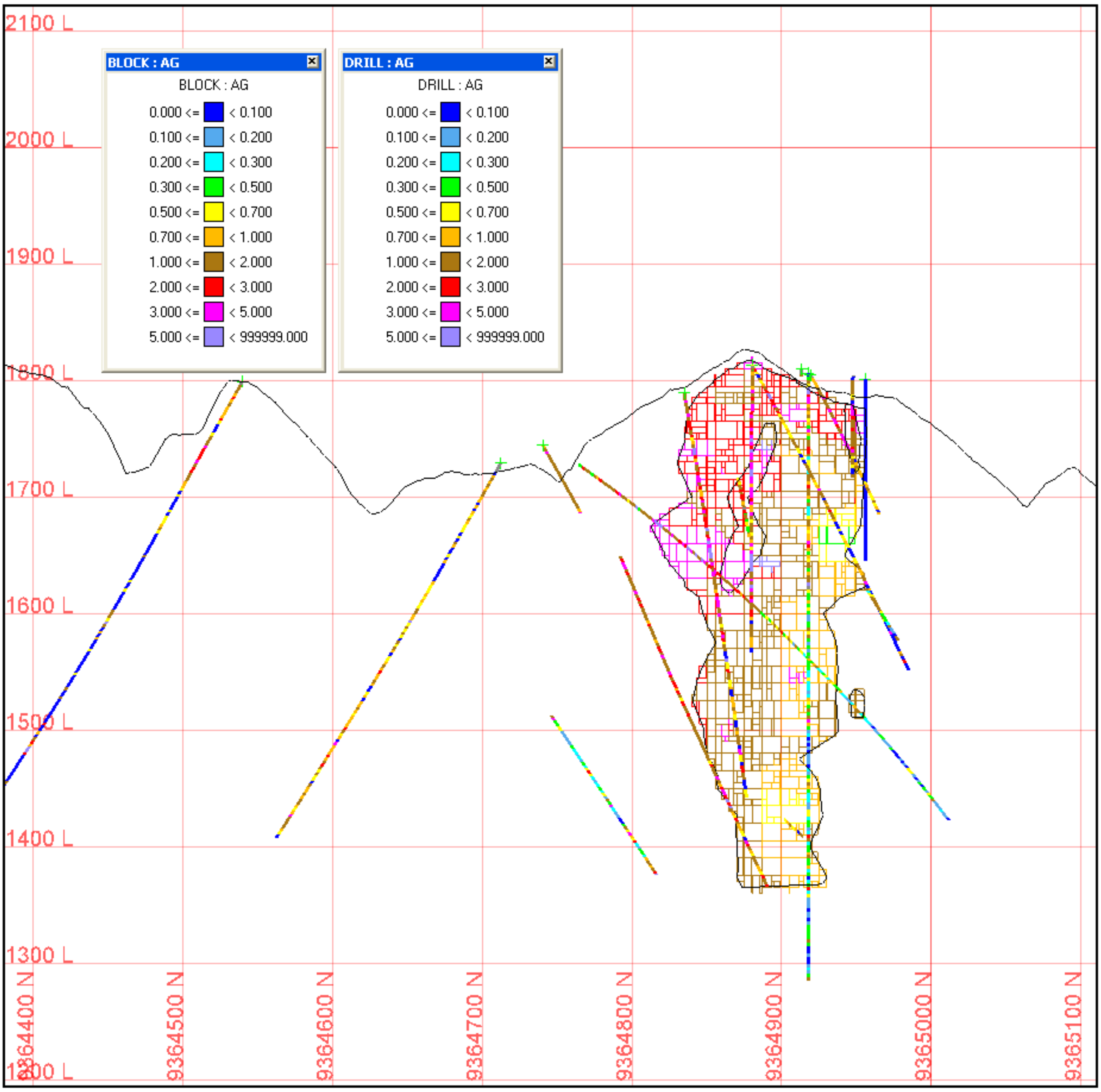


Figure 19-13: Onscreen Validation: Blocks vs. Geological Model (Ag in all Au domains)

19.1.14 Density Assignment

The Yandera tonnages have been calculated using dry bulk density values that were assigned to the block model.

Dry bulk density assignment is based on the analysis of 247 measurements taken from diamond drill core. Samples were dried before measurements were taken using an immersion/water displacement method.

The data was subset by geology and anomalous outlier samples were removed. The average densities derived for each geology type are summarised in Table 19-18. The leucocratic quartz porphyry density value was calculated from geochemistry as no samples were available. The calculated value is considered reasonable by the author.

The dry bulk density values were applied to the Yandera block model using solid wireframes of the geological units. Mixed and Oxide material was assigned density values irrespective of geology type.

Table 19-18: Dry Bulk Density Values for Yandera

Weathering type	Geology	Geology code in model	Density (t/m^3)
Hypogene	Monzonite-Granodiroite	10	2.56
	Dacitic Porphyry	20	2.59
	Breccia	40	2.60
	Leucocratic Quartz Porphyry	50	2.60
Mixed			2.40
Oxide			1.80

19.1.15 Rhenium and Cu Equivalent Grades

Rhenium

Rhenium (Re) is present in the Yandera deposit. To date only a small number of samples have been assayed for Re, however a correlation between Mo and Re has been observed. In order to populate the model with Re grades two regression formulas were used to calculate the Re grade from the Mo grade on a block by block basis, post estimation:

- For blocks north of 9,364,500 mN Re was calculated as 0.0004*Mo+0.0243.
- For blocks south of 9,364,500 mN Re was calculated as 0.0002*Mo+0.0713.

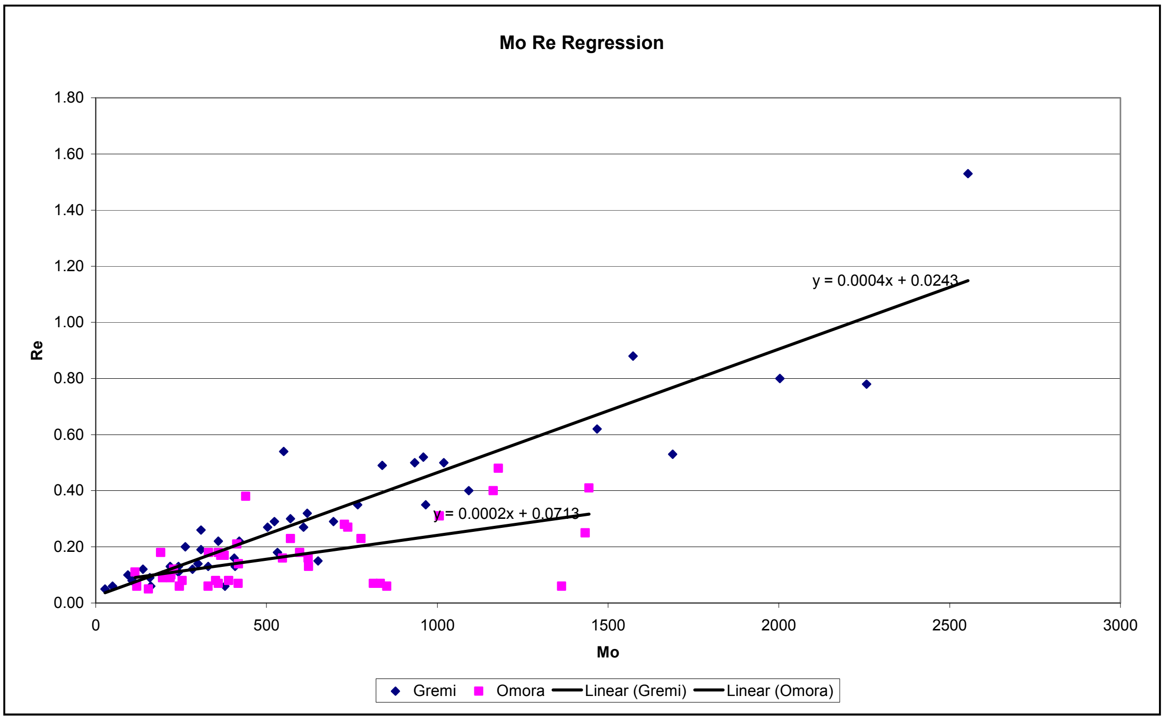


Figure 19-14: Mo:Re regression

Cu Equivalent

Cu equivalent (CuEq) values were derived using the equation (Cu% + (10 × Mo%)) and are expressed in percent (1% = 10,000 ppm).

19.1.16 Resource Classification

Resources were classified in accordance with the guidelines of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2004).

The resource classification was based on data quality, data density, confidence in the geological interpretation and confidence in the estimation.

The resource has been classified into Measured, Indicated and Inferred Resource categories. The JORC classification is comparable with the CIM definitions for the same categories as presented in Table 19-19.

All information used as inputs to the resource estimate have been gathered through appropriate techniques and is regarded to be of an adequate standard. The complexity of the geology and the wide spacing of the drilling has limited the classification of much of the resource to the Inferred category. Inferred mineralisation is bounded by the marginal alteration zone.

- Measured Resources – where drilling is on a nominal 50 m by 50 m spacing (section by strike).
- Indicated Resources – where drilling is nominally greater than 50 m by 50 m and less than 50 m by 100 m (section by strike).
- Inferred Resources – where drilling is up to a nominal 100 m by 200 m spacing (section by strike).

Figure 19-15 illustrates the extent of the resource with reference to the drill hole collar locations. It also shows the extent of resource classification.

Table 19-19: Comparison of JORC and CIM classification

JORC	CIM
An ‘**Inferred Mineral Resource**’ is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability.	An ‘**Inferred Mineral Resource**’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.
An ‘**Indicated Mineral Resource**’ is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.	An ‘**Indicated Mineral Resource**’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
A ‘**Measured Mineral Resource**’ is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.	A ‘**Measured Mineral Resource**’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

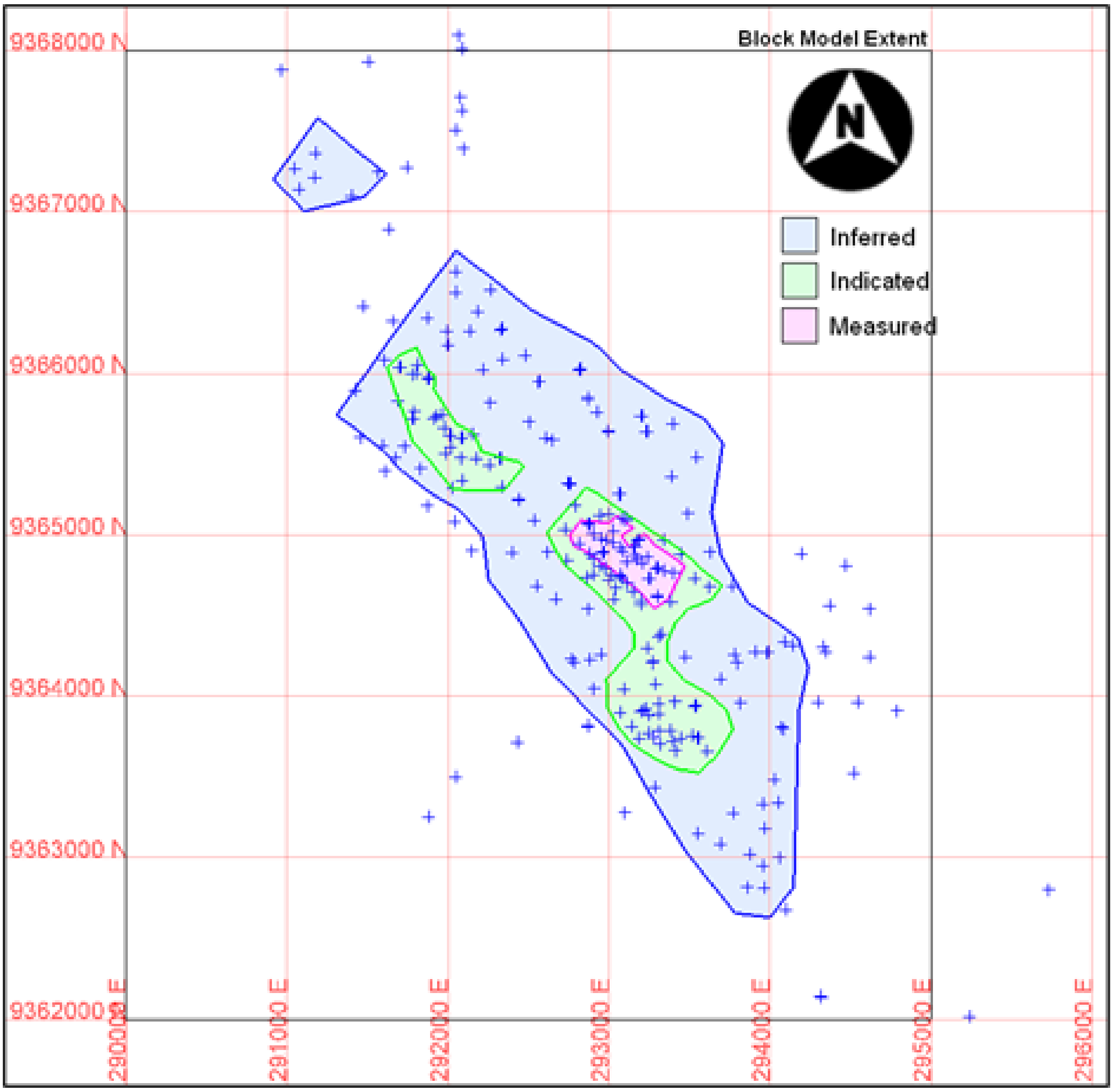


Figure 19-15: Resource Area, Drill holes and Classification zones

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

The Mineral Resource was prepared under the supervision of Stephen Godfrey. Stephen Godfrey is a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists and 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).

19.1.17 Mineral Resources

Assumptions and Methodology

This Mineral Resource estimate is based on a number of factors and assumptions:

- The resource model is based on the geological database as at 19 January 2011. The geological interpretation was undertaken by Gabriel Liam of Marengo Mining. Digital geology modelling, block model construction and grade estimation were undertaken by Golder using Golder proprietary and Vulcan software.
- The geological interpretation was based on data from 345 Diamond Drill holes totalling 113,716 m, containing 34,382 logged and assayed intervals. The geological model extends 6000 m along strike south- east to north-west and covers the average 1000 m width of the mineralisation.
- Sample data was composited to 5 m and flagged by geological, weathering, alteration and grade shell domains. Ordinary Kriging was used to estimate grades within the estimation domains. Resources were estimated separately for Cu, Mo, Au and Ag. Re was calculated using a Mo:Re regression for all blocks containing a Mo estimate.
- The Yandera tonnages have been calculated using dry bulk density values that were assigned to the block model (as summarised in Section 19.1.14).

The Mineral Resource in Table 19-20 and Table 19-21 have been reported at a selection of CuEq cut-off grades. *Note: All tables show rounded figures. Significant figures do not imply precision.*

Table 19-20: Yandera Mineral Resource – Cu and Mo

CuEq Cut-Off Grade	Mineral Resource Category	Mt	CuEq%	Cu ppm	Mo ppm
0.20	Measured	132	0.53	3,700	167
0.20	Indicated	490	0.35	2,772	89
0.20	**Combined Measured + Indicated**	**622**	**0.39**	**2,968**	**108**
0.20	Inferred	1,017	0.33	2,840	68
0.25	Measured	124	0.55	3,826	173
0.25	Indicated	349	0.40	3,126	106
0.25	**Combined Measured + Indicated**	**472**	**0.44**	**3,309**	**125**
0.25	Inferred	647	0.39	3,327	81
0.30	Measured	113	0.57	3,980	181
0.30	Indicated	245	0.46	3,468	124
0.30	**Combined Measured + Indicated**	**359**	**0.50**	**3,629**	**143**
0.30	Inferred	417	0.45	3,838	96

*CuEq – Cu Equivalent is calculated as (Cu% + (Mo% × 10))

Table 19-21: Yandera Mineral Resource – Au Ag Re

CuEq Cut Off Grade	Mineral Resource Category	Mt	Au g/t	Ag g/t	Re ppm*
0.20	Inferred	1,639	0.07	1.50	0.05
0.25	Inferred	1,119	0.08	1.58	0.05
0.30	Inferred	776	0.09	1.68	0.06

** Re is Calculated by regression against Mo

19.2 Mineral Reserves

No Mineral Reserves are available for this resource yet. The Mineral reserves are being defined as part of the ongoing Definitive Feasibility Study.

20.0 OTHER RELEVANT DATA AND INFORMATION

This section is not applicable to this report.

21.0 INTERPRETATION AND CONCLUSIONS

Geological mapping, geochemical sampling and diamond drill sampling have defined a mineralised zone four kilometres long by two kilomtres wide. Copper and molybdenum mineralisation within the zone varies with the intensity of the alteration associated with the emplacement of porphyry domes. The highest grade mineralisation occurs in breccia zones within the intensely altered zone. Current drilling and sampling adequately defines the boundaries and continuity of mineralisation to allow an Inferred Resource to be estimated. In the more intensively drilled areas, mainly Gremi and Omora, there is adequate information to define Indicated and Measured Resources. The quality of data collected has been assessed by the author and it is considered appropriate for input into the resource estimation.

Gold, silver and rhenium have been included in the current resource estimate, however further investigation into the provenance and quality of the historical data and a more detailed understanding of the relationship between Mo and Re will allow higher confidence to be placed in future resource estimations of these elements.

Detailed analysis and interpretation of the more densely drilled areas is helping to develop a better understanding and model of the geology and continuity of mineralisation. This will result in an increase in the confidence and further upgrading of the classification of more of the resource of the Yandera Copper Molybdenum Project in the future.

22.0 RECOMMENDATIONS

Based on the authors' analyses of the Yandera Copper Molybdenum Project it is recommended the following work be addressed by Marengo. Table 22-1 provides an estimate of the expected cost of this work.

1) Detailed structural and geological interpretations should continue. The detailed geological interpretation that has been completed for the Gremi area should be extended to the rest of the deposit.

2) The resource model should be updated when the geological interpretation is complete.

3) Investigation into the provenance and reliability of the historical Au and Ag analyses should be undertaken.

   Pre-Marengo Au and Ag assays records are based on a variety of analyses by several companies. A quality assurance program should be undertaken to confirm the reliability of these results.

4) Further Re analyses should be undertaken to confirm the current relationships used to calculate the Re grades in the resource.

   Re values in the current resource are based on a very limited number of samples. A pulp re-assaying program should be undertaken for a selection of samples over the full extent of the mineralisation and for each of the various lithological units. Approximately 1000 pulps should be re-assayed to enable an assessment of the consistency of the Re and the accuracy off the current correlation with Mo. This represents approximately 10% of the sample population.

Table 22-1: Estimated costs

Task	Estimated Cost
1) Ongoing Geological Interpretation	AUD$100 000
2) Resource update	AUD$40 000
3) Au/Ag Quality Assurance (Geologist/DBA – 3 months)	AUD $50 000
4) Re Analysis (~1000 pulps)	AUD $50 000

REFERENCES

APM, 2011. http://www.austpngminerals.com/index.php, accessed 12 April 2011.

Asia Pacific Mining Regulations, Price Waterhouse Cooper, November 1999

Golder, 2007, Yandera Resource Statement, Golder Associates, May 2007 Internal report to Marengo Mining Ltd.

Golder, 2008, Yandera Resource Statement, Golder Associates, October 2008 Internal report to Marengo Mining Ltd.

Golder, 2009, Revised and Restated Technical Report, Yandera Copper Project, Madang Province, Papua New Guinea. January 2009. Internal report to Marengo Mining Ltd.

Golder, 2011, Yandera Resource Statement, Golder Associates, March 2011 Internal report to Marengo Mining Ltd.

JORC, 2004, Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code). Prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC), effective 17 December 2004.

Meldrum, S.J. 2007, Notes on the Yandera Porphyry Cu Complex, PNG. S.J. Meldrum Consulting Exploration Geologist. March 2007.

Mining Act 1992. Independent State Of Papua New Guinea. No. 20 of 1992.

Mining regulations 1992. Independent State Of Papua New Guinea. No. 18 of 1992.

Mining Handbook, 2002. Papua New Guinea Department Of Mining.

MRA, 2009. http://www.mra.gov.pg/Portals/0/Mining%20Infor/EL%20Lisitng%20Updated%20April09.pdf. accessed 12 April 2011.

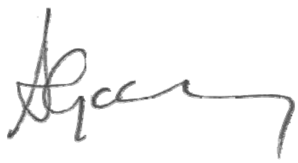
Ramu, 2011. http://www.ramunico.com/index_en.php, accessed 12 April 2011.

23.0 CERTIFICATES OF QUALIFIED PERSONS

I, Stephen Godfrey, of Perth, Australia do hereby certify that:

- I am an Associate and Principal Resource Geologist with Golder Associates Pty Ltd., 1 Havelock Street, West Perth, Australia.
- I am a graduate of The University of New England, NSW, Australia, B.Sc.(Hons), 1982.
- I am a Member in good standing of the Australian Institute of Mining and Metallurgists.
- I have practiced my profession for 28 years since graduation.
- My relevant experience with respect to the Yandera Copper Molybdenum Project includes 18 years resource modelling of a variety of metalliferous projects including 5 years with the Yandera Copper Molybdenum Project as an independent consultant.
- I have read the definition of “qualified person” set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I am a “qualified person” for the purposes of NI 43-101.
- I am responsible for the preparation of all portions of the revised and restated technical report titled “Yandera Copper Project, Madang Province, Papua New Guinea”, dated April 2011.
- I most recently personally inspected the Yandera Copper Molybdenum Project November 22/23, 2006.
- I have been involved with the Yandera Copper Molybdenum Project since March 2006 as an independent geological consultant.
- As of the date of this certificate, to the best of my knowledge, information and belief, the Revised Technical Report contains all scientific and technical information that is required to be disclosed to make the Revised Technical Report not misleading.
- I am independent (as defined by Section 1.4 of NI 43-101) of Marengo Mining Limited.
- I have read NI 43-101 and 43-101F1 and the Revised Technical Report has been prepared in compliance with that instrument and form.

Signed and dated this 14th day of April, 2011 at Perth, Australia



signed *Stephen Godfrey*

Signature

Golder Associates

At Golder Associates we strive to be the most respected global company providing consulting, design, and construction services in earth, environment, and related areas of energy. Employee owned since our formation in 1960, our focus, unique culture and operating environment offer opportunities and the freedom to excel, which attracts the leading specialists in our fields. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees who operate from offices located throughout Africa, Asia, Australasia, Europe, North America, and South America.

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 55 21 3095 9500

solutions@golder.com
www.golder.com

Golder Associates Pty Ltd
Level 3, 1 Havelock Street
West Perth, Western Australia 6005
Australia
T: +61 8 9213 7600

Golder Associates