PAPUA NEW GUINEA – WAFI-GOLPU

EXTRACT FROM MINERAL RESOURCES AND MINERAL RESERVES 2017

The Wafi-Golpu Project is owned by the Wafi-Golpu joint venture, a 50:50 unincorporated joint venture between subsidiaries of Harmony and Newcrest Mining Limited (Australia) respectively.

The Wafi-Golpu joint venture participants are the holders of exploration licences EL440 and EL1105, which are located approximately 65km southwest of Lae, in Morobe Province.

Lae, the second largest city in Papua New Guinea, will host the project's import and concentrate export facilities. The proposed mine site sits at an elevation of approximately 400m above sea level in moderately hilly terrain and is located near the Watut River, approximately 30km upstream from its confluence with the Markham River.

In February 2016, the Wafi Golpu Joint Venture participants completed feasibility and prefeasibility studies for the Wafi-Golpu copper-gold project and declared updated resources and reserves for the project. Both studies confirmed a robust investment case. In August 2016, an application for a special mining lease was lodged, supported by a proposal for development.

Subsequent to the completion of these studies and after further geotechnical drilling, certain technical challenges were identified, including seismicity impacting the preferred location of the terrestrial tailings storage facility, and limitations on the capacity of identified potential terrestrial storage sites in the vicinity of the mine to accommodate the projected life of mine volume of mine tailings.

Deep-sea tailings placement was seen as a potential alternative tailings management strategy, as there are excellent geographical conditions around Papua New Guinea for the deep-sea placement of tailings with a number of other mines in the area using this method.

In light of this development and other changes to the proposed project configuration, work has begun on an update to the 2016 Golpu feasibility and prefeasibility studies. The studies, scheduled for completion in the third quarter of FY18, will include the following:

- An improved understanding of the geotechnical conditions expected at the proposed block caves
- Optimisation of mining and processing throughput rates
- Studies of deep sea tailings placement, including an accelerated programme of oceanographic data collection. Number of environmental monitoring buoys have been deployed in the Huon Gulf to the south of Lae. Shipboard surveys are also being undertaken in the gulf.
- A programme of work to address the chemical composition of the tailings and its reactivity with the oceanic environment of the Huon Gulf, and to identify any mitigating measures (including processing) which may be required
- A review of terrestrial tailings management options, including dry stacking
- A trade-off study, comparing deep sea tailings deposition and terrestrial tailings management solutions, with a final recommendation to be made. Until the study has been concluded, both terrestrial and deep sea options for tailings management remain open

The joint venture participants are also considering a site-based power station to reduce the risk of interruptions to the grid power supply. Work is continuing to review and align the proposal for development lodged in August 2016 with the outcomes of the updated studies. A framework of overarching principles for state and landowner engagement is also being prepared that will inform the details of the matters to be negotiated, both with the state (mining development contract) and at the Development Forum between the state and landowner representatives.

PAPUA NEW GUINEA – WAFI-GOLPU CONTINUED

EXTRACT FROM MINERAL RESOURCES AND MINERAL RESERVES 2017

Papua New Guinea

GOLPU, WAFI, NAMBONGA

Property descrpition and location

The Golpu, Wafi and Nambonga deposits are located in eastern Papua New Guinea, approximately 60km southwest of Lae in the Morobe Province. Access to the project from Lae is via a combination of sealed and unsealed roads with a travel time of 4 hours. The operation is a 50:50 joint venture between Harmony Gold Mining Limited (Wafi Mining Limited) and Newcrest Mining Limited (Newcrest PNG2 Limited).

History

The Wafi area mineralisation was first identified in 1979 by CRA Exploration with the discovery of the underlying Golpu Porphyry by Elders Resources Limited in 1990. Since this time, several companies have completed exploration and resource-definition drilling programmes with associated mine development studies.

Nature of operations

The operations are in advanced exploration and project studies phase. Golpu, the most advanced, is currently busy with the feasibility study for stage 1 and the prefeasibility study for stage 2. No mining has occurred in the project area

Mineral rights/legal aspects and tenure

The deposits lie on exploration lease EL440 which is 50% owned by Harmony through Wafi Mining Ltd and Newcrest Mining Ltd, through Newcrest PNG2 Limited.

Geology

The operations and projects fall within the New Guinea Mobile Belt of Papua New Guinea which is one of the world's pre-eminent geological terrains for porphyry copper-gold and epithermal gold mineralisation.

Golpu is ranked as a world-class deposit in terms of its size and the grade. Wafi-Golpu includes the Golpu copper-gold porphyry deposit, the Nambonga copper-gold porphyry deposit, and the Wafi high sulphidation epithermal gold deposit. Knowledge of the Wafi-Golpu system is limited by the extent of drilling and the deposit remains open for future expansion. Exploration activity is guided by strong indications that the resource will continue to grow at depth as a better understanding is gained of the nature and extent of the mineralised systems.

GOLPU

The Golpu deposit is the largest of the deposits and found in a block of deformed Upper Mesozoic to Middle Miocene metasedimentary rocks cut by Miocene-Pliocene calc-alkaline dioritic intrusives. Copper and gold mineralisation results from a porphyry system with the upper portion overprinted by high sulphidation epithermal alteration. The deposit is also 60km north northwest of the porphyry-related gold-silver-base metal Hidden Valley-Kaveroi mines and other related deposits in the Bulolo Graben (e.g. Edie Creek, Kerimenge, Upper Ridges).

The Golpu mineral resource is approximately 800m by 400m elliptical in plan and extends from 200m below surface to greater than 2 000m depth. The deposit remains open at depth.

The system consists of multiple, hornblende-bearing diorite porphyries intruded into host sediments. Intrusives range from small dykes to small stocks and apopheses. Hydrothermal alteration related to the porphyry copper-gold mineralisation forms a predictable zonal arrangement grading from potassic core to propylitic margins. A high sulphidation epithermal system is 'telescoped' over the upper portion of the porphyry system forming a central alunite-quartz (advanced argillic) core grading out to dickite-kaolinite (argillic) with an outer margin of sericite alteration. This results in either epithermal-dominant, interaction (mixed) or porphyry-only zones.

The Golpu mineral resource has been updated as at 31 December 2015 to align with the results of Golpu 2015 stage 1 feasibility and stage 2 (life-of-mine) prefeasibility studies. The key change is the applied cut-off grade that defines the volume with reasonable prospects of eventual economic extraction. The Golpu resource is constrained within a marginal breakeven shell using Wafi-Golpu Joint Venture 2015 gold and copper revenues and the estimated long-term cost structure developed in the 2015 Golpu stage 2 prefeasibility study. The December 2014 Mineral Resource was reported within a 0.2%

PAPUA NEW GUINEA – WAFI-GOLPU CONTINUED

EXTRACT FROM MINERAL RESOURCES AND MINERAL RESERVES 2017

copper shell representative of the revenue and cost structures of the 2012 Golpu prefeasibility study. There was no additional drilling that impacted the Golpu mineralised volume and the underlying geology and grade model is unchanged from that used in the December 2014 Mineral Resource.

WAFI

The Wafi deposit is centred on high sulphidation epithermal mineralisation within a larger epithermal and porphyry related complex in granted Exploration Licence EL440, approximately 60km southwest of Lae, Papua New Guinea. The Wafi deposit outcrops less than 1km to the south of the top of the Golpu porphyry deposit.

The Wafi mineralisation has been defined over a surface area of 1 100m x 800m and up to 600m below surface, with the majority of the material potentially exploitable by open pit mining methods. No reserve is declared and no mining has been undertaken in the project area to date.

NAMBONGA

The Nambonga deposit is located 700m east of Golpu and is hosted in a diorite porphyry stock, termed the Nambonga Porphyry. Chalcopyrite is the dominant copper mineral in the porphyry, which is associated with silicification, either pervasive or as veins. Gold is thought to be intergrown with the chalcopyrite or pyrite.

The approximate extents of the system are 500m (eastwest), 400m (northsouth) and 1 000m vertically.

The Nambonga resource model contains estimates for gold, silver, copper, lead, zinc and sulphur. Estimation domains are based on a combination of lithology, alteration and mineralisation. The Nambonga deposit is an advanced exploration target and no mining has been undertaken in the project area to date.

There has been no change to the Wafu Golpu resources or reserves this year.

Mining methods and mine planning (Golpu feasibility)

The Golpu feasibility calls for a block cave approach to the mining of the ore body. The caves will be amenable to "staged development which allows for optimising the capital efficiency and progressively de-risks the project prior to further investments. Twin decline access the ore body form surface.

In the first phase cave, ore will be loaded directly into crushers by load haul dump units. In subsequent caves, additional crushers shall be commissioned outside the haulage level which will be fed by larger trucks. Internal passes will be equipped with grizzlies, mobile rock breakers and feeders and installed to limit LHD tramming distances.

Mineral processing (Golpu feasibility)

The proposed processing method has been based on known technology utilising testwork results gathered in the Mine 1 pre-feasibility optimisation study and previous studies. A copper and gold concentrate will be produced form a conventional crush, grind, float processing plant. Concentrate will be shipped from the port of Lae as a final product. Gold will also be produced as doré for delivery to a precious metal refinery.

Infrastructure (Golpu feasibility)

No major infrastructure is currently located at Golpu besides the exploration camp and access roads. The feasibility study contemplates:

- Upgraded and rerouted access road from Lae to site
- Accommodation and services to support the mining and processing operation
- Concentrate trucking system
- Concentrate handling facilities at the Port of Lae
- Main incomer and electrical reticulation system for a 6Mtpa operation
- Tailings storage facility.

The Golpu mineral resource is estimated by Ordinary Kriging within alteration and lithological domains for gold, copper, silver, molybdenum and sulphur elements. The mineral resource is reported within a breakeven value shell that applies the stage 2 prefeasibility study block-cave mining, treatment and general and administration costs with metallurgical recovery models and associated non-site realisation (TCRC) costs of the copper concentrate product. Revenue of gold and copper are the only economic elements included in the value estimate. The mineral resource reports the contained metal content of silver and molybdenum but revenues are not included in the estimation of the reporting cut-off. The PFS assumes no silver and molybdenum payable recovery however both elements have been included in the mineral resource as there is reasonable prospects of eventual economic extraction with limited changes to the metallurgical flow-sheet and operational procedures. Silver and molybdenum have no impact on the reported Mineral Resource volume.

The Wafi mineral resource estimate was estimated by localised Multiple Indicator Kriging method (LMIK) and reported within a spatially constraining pit using revenue of US$1 400/oz gold. Non-refractory gold (NRG) material is reported at a 0.4g/t cut-off where NRG is defined as greater than 70% cyanide soluble gold as AuCN assays within the database. Refractory material below the NRG surface and within the spatial constraining pit shell is reported at a cut-off of 0.9 g/t gold.

The Nambonga Mineral Resource is an Ordinary Kriged estimate based on an unconstrained domained geological model and is reported within mineralised domains.

Environmental impact

The projects are in exploration and feasibility study stage and as such have only minor environmental impacts. The environment aspect are regulated by CEPA (Conversation and Environmental Protection Agency) and Golpu reports regularly to this agency.

An environmental impact assessment is being compiled as part of the mine approval process.

PAPUA NEW GUINEA – WAFI-GOLPU CONTINUED

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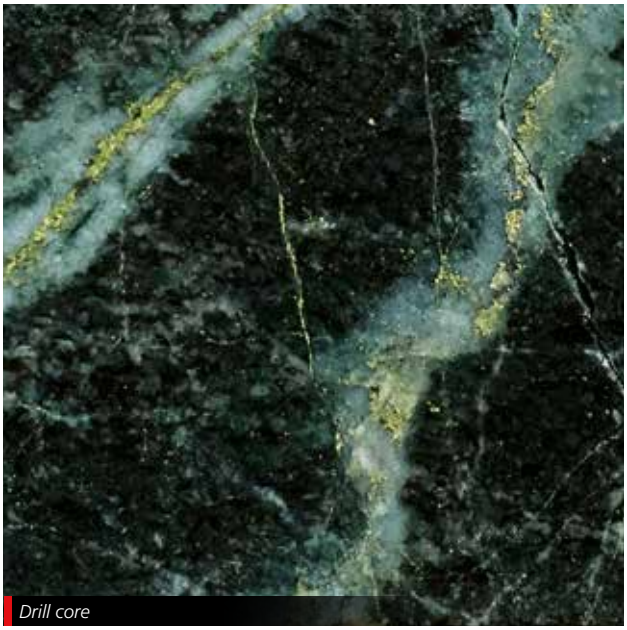
The Wafi mineralisation has been defined over a surface area of 1 100m x 800m and up to 600m below surface, with the majority of the material potentially exploitable by open pit mining methods. No reserve is declared and no mining has been undertaken in the project area to date.

Nambonga resource

The Nambonga deposit is located 700m east of Golpu and is hosted in a diorite porphyry stock, termed the Nambonga Porphyry. Chalcopyrite is the dominant copper mineral in the porphyry, which is associated with silicification, either pervasive or as veins. Gold is thought to be intergrown with the chalcopyrite or pyrite.

The approximate extents of the system are 500m (eastwest), 400m (northsouth) and 1 000m vertically.

The Nambonga resource model contains estimates for gold, silver, copper, lead, zinc and sulphur. Estimation domains are based on a combination of lithology, alteration and mineralisation. The Nambonga deposit is an advanced exploration target and no mining has been undertaken in the project area to date.



Drill core

Competent persons

Golpu	
Resource **Group Resource Geologist Newcrest Mining Ltd,** Paul Dunham *AusIMM*	+25 years' experience
Reserve **Area Manager Mining Golpu Project Feasibility Study,** Pasqualino Manca *AusIMM*	+25 years' experience
Wafi and Nambonga	
Resource **Executive General Manager Resources and New Business Harmony SE Asia,** Greg Job *AusIMM*	+25 years' experience

Papua New Guinea exploration

PAPUA NEW GUINEA – WAFI-GOLPU CONTINUED

EXTRACT FROM MINERAL RESOURCES AND MINERAL RESERVES 2017

WAFI

(Harmony Newcrest Joint Venture 100% portion)

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes		Gold		Tonnes		Gold		Tonnes		Gold		Tonnes		Gold	
	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)
Wafi	–	–	–	–	113.5	1.72	196	6 292	22.7	1.30	30	950	136.1	1.65	225	7 242

GOLPU

(Harmony Newcrest Joint Venture 100% portion)

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes		Gold		Tonnes		Gold		Tonnes		Gold		Tonnes		Gold	
	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)
Golpu	–	–	–	–	688.0	0.71	492	15 811	135.8	0.63	86	2 754	823.8	0.70	577	18 565

Modifying factors

	MCF (%)	Dilution (%)	PRF (%)
Golpu	100	0	61

Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes		Gold		Tonnes		Gold		Tonnes		Gold	
	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)
Golpu	–	–	–	–	379.1	0.91	343	11 043	379.1	0.91	343	11 043

Silver – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes		Ag	Ag	Tonnes		Ag	Ag	Tonnes		Ag	Ag	Tonnes		Ag	Ag
	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)	(Mt)	(g/t)	(000kg)	(000oz)
Golpu	–	–	–	–	688.0	1.29	886	28 494	135.8	1.06	144	4 643	823.8	1.25	1 031	33 138

Copper – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes		Cu	Cu	Tonnes		Cu	Cu	Tonnes		Cu	Cu	Tonnes		Cu	Cu
	(Mt)	%	(Mkg)	(Mlb)	(Mt)	%	(Mkg)	(Mlb)	(Mt)	%	(Mkg)	(Mlb)	(Mt)	%	(Mkg)	(Mlb)
Golpu	–	–	–	–	688.0	1.09	7 468	16 464	135.8	0.85	1 154	2 545	823.8	1.05	8 622	19 009

Copper – Mineral resources as gold equivalents

	Measured (000oz)	Indicated (000oz)	Inferred (000oz)	Total (000oz)
Golpu	–	41 149	6 361	47 510

PAPUA NEW GUINEA – WAFI-GOLPU CONTINUED
EXTRACT FROM MINERAL RESOURCES AND MINERAL RESERVES 2017

GOLPU continued

Modifying factors

	MCF (%)	Dilution (%)	PRF (%)
Golpu	100	0	92

Copper – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)
Golpu	–	–	–	–	379.1	1.26	4 780	10 538	379.1	1.26	4 780	10 538

Copper – Mineral reserves as gold equivalents

	Proved	Probable	Total
	(000oz)	(000oz)	(000oz)
Golpu	–	26 337	26 337

Molybdenum – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)
Golpu	–	–	–	–	688.0	94	65	142	135.8	72	10	21	823.8	90	74	164

NAMBONGA

(Harmony Newcrest Joint Venture 100% portion)

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(g/t)	Gold (000kg)	(000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	(000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	(000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	(000oz)
Nambonga	–	–	–	–	–	–	–	–	39.8	0.79	32	1014	39.8	0.79	32	1 014

Silver – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	(g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	(g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	(g/t)	Ag (000kg)	Ag (000oz)
Nambonga	–	–	–	–	–	–	–	–	39.8	2.87	114	3 675	39.8	2.87	114	3 675

Copper – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)
Nambonga	–	–	–	–	–	–	–	–	39.8	0.21	84	184	39.8	0.21	84	184

Copper – Mineral resources as gold equivalents

	Measured	Indicated	Inferred	Total
	(000oz)	(000oz)	(000oz)	(000oz)
Nambonga	–	–	469	469