

March 19, 2018

## Updated Feasibility Study provides a clear path forward for Wafi-Golpu Project

The Wafi-Golpu Joint Venture (WGJV) has prepared an updated Feasibility Study for the Joint Venture participants (Harmony Gold Mining Company Limited and Newcrest Mining Limited). This updated study draws on extensive data collection undertaken since 2016, providing a deeper understanding of the Project's geotechnical, infrastructure, oceanographic, environmental and social parameters.

The Feasibility Study Update will form part of a revised Proposal for Development in support of the Special Mining Lease application which will be submitted to the Mineral Resources Authority (MRA) in Port Moresby on 20 March 2018.

Bryan Bailie, the Executive Project Director for WGJV said, "The Feasibility Study Update sets out an improved business case for the Project, and clarifies the preferred options for a successful project, from a technical, safety, environmental, social and legacy perspective."

Bryan also noted that the Wafi-Golpu Joint Venture – together with the 50:50 joint venture partners Harmony Gold and Newcrest Mining – were pleased to keep their commitment to the PNG Government to submit this Feasibility Study Update before the end of March 2018. "We look forward to continuing to work closely with the Government's State Negotiating Team to take forward the permitting and approvals process as efficiently as possible, in accordance with PNG law."

The Wafi-Golpu Project site is located in Morobe Province, about 65 km south-west of Lae. If developed, the Wafi-Golpu Project would be the largest, deepest and most complex underground mine in PNG, with a mine life of 28 years. Subject to Board approvals by the joint venture participants, construction would commence after the granting of an SML and receipt of all other required Government approvals, and first ore production would be expected around 5 years from that decision. An initial capital investment is expected of approximately PGK9.1 billion (US\$2.8 billion), with total capital expenditure expected to be around PGK17.4 billion (US\$5.4 billion) over the life of the mine.

As well as this significant injection into the PNG economy, the Project would create economic benefits across the country, including around 2,500 direct jobs during construction, about 850 ongoing operations jobs and further indirect jobs created in the region. The Project will also contribute at local, provincial and national levels through the payment of royalties and taxes, and through a social development investment program designed across the life of the mine.

The Wafi-Golpu Joint Venture continues to engage extensively with community groups in Morobe Province, and has provided regular updates about the results of the studies undertaken to date. The Wafi-Golpu Joint Venture will continue to work closely with local communities, and provincial and national governments, to build understanding and support for the Project.

The Wafi-Golpu Joint Venture will continue to help local communities throughout the Project area benefit from the social and economic benefits flowing from Project activities. The WGJV Community Development Program has a strong focus on unlocking Morobe's agribusiness potential, continuing to support an ongoing cocoa development program and investigating other potential and appropriate agricultural initiatives. Since 2010, the Program has invested in water and sanitation, health, literacy, and road infrastructure in Morobe Province. Community development flowing from the Project will complement and support National Government's Vision 2050 goals as well as the Morobe Provincial Government's Kundu Vision 2048 - the province's 30-year strategy for Morobe economic and social development potential.

## **Findings of the Feasibility Study Update**

The Feasibility Study Update provides greater clarity around the infrastructure which will be associated with development of the Project.

To ensure a reliable base load power supply, a modular designed power plant is proposed, with an installed capacity of 140MW, together with associated fuel supply infrastructure. Building a power plant will increase project capital by approximately PGK548 million (USD\$170 million). Further work will continue on identifying other reliable power solutions which may include gas, renewable (such as hydro) and hybrid options.

Proposed new port facilities created within the Port of Lae are designed to handle, store and export the peak production rate of 84,000 wet metric tonnes of copper concentrate per month. A Memorandum of Agreement has been signed with PNG Ports Corporation Limited to negotiate the terms of tenure, make the preferred port location available and not encumber that preferred location whilst tenure is being secured as part of the permitting process.

A new Northern Access Road is proposed as a 35km-long extension from the Highlands Highway to the Mine Site boundary. The road crosses the Markham and Watut rivers which will require the construction of two significant bridges and three further bridges. Two new community roads are also expected to be built, each up to 20km long, including several bridges to cross high flowing rivers. These additional roads will help unlock the agribusiness potential of the region and improve social development by providing remote communities with access to markets for their agricultural produce.

Three types of tailings management options have been considered for the Project: various terrestrial tailings storage facilities; dry stacking; and deep-sea tailings placement (DSTP). In light of the outcomes from the study of 45 terrestrial sites and the outcomes of DSTP study work undertaken to date, the updated Feasibility Study recommends the use of DSTP as the preferred tailings management solution, based on safety, technical, social, environmental and legacy considerations. PNG has three existing active DSTP operations (Lihir, Simberi, Ramu Nickel), one permitted (Woodlark) and one closed (Misima).

DSTP studies have been conducted as part of the 2017-18 work program. Oceanographic and environmental studies conducted in the Western Huon Gulf confirmed that area to be a highly suitable environment for DSTP. It hosts a deep canyon leading to a very deep oceanic basin, with no evidence of upwelling of deeper waters to the surface. The tailings are expected to mix and co-deposit with a significant, naturally occurring loading of riverine sediments from the Markham, Busu and other rivers that also are conveyed via the Markham Canyon to the deep sea. Around 60 million tons per annum of sediment has been measured. The pelagic, deep-slope and sea floor receiving environment has a very low

biodiversity as a result of the riverine sediment transport, deposition and regular mass movements (underwater landslides). These same riverine sediments are expected to also bury the co-deposited tailings at closure and promote benthic recovery to pre-mine conditions.

Oceanographic studies have confirmed that a 200m deep outfall for the tailings disposal will meet the draft PNG Guidelines for Deep Sea Tailings Placement, prepared by the Scottish Association for Marine Sciences on behalf of the State of Papua New Guinea. Further information about DSTP is available at [www.wafigolpujv.com](http://www.wafigolpujv.com).

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#### **Picture Captions**

- 1.** Aerial 1 – Aerial photo showing the Wafi-Golpu Project Camp.
- 2.** DSTP Update Wagang – WGJV carries out a DSTP awareness presentation at Wagang (Sipaia) Village.
- 3.** DSTP Study Ship – Wagang village councillor and church leader on tour on board the MV Duke.

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