

HARMONY GOLD MINING CO LTD

Form 6-K

January 26, 2010

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO

RULE 13a-16 OR 15d-16 UNDER THE SECURITIES

EXCHANGE ACT OF 1934

For

26 January 2010

Harmony Gold Mining Company

Limited

Randfontein Office Park

Corner Main Reef Road and Ward Avenue

Randfontein, 1759

South Africa

(Address of principal executive offices)

(Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.)

Form 20-F Form 40-F

(Indicate by check mark whether the registrant by furnishing the information contained in this form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.)

Yes No

**Issued by Harmony Gold
Mining Company Limited**

26 January 2010

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NYSE: HMY

NASDAQ: HMY

ISIN No.: ZAE000015228

**EXCELLENT DRILLING RESULTS AT GOLPU WEST SPELLS EXCITEMENT FOR
HARMONY'S EXPLORATION ACTIVITIES IN PNG**

Johannesburg. Tuesday, 26 January 2010. Harmony Gold Mining Company

Limited (Harmony) is pleased to advise that encouraging results were achieved from recent drilling conducted on the Golpu West prospect, as part of the company's exploration programme in Papua New Guinea (PNG).

Golpu West is located off the western margin of the Golpu orebody and entirely outside of the existing resource limits. Drilling to date has defined approximately 160 metres of strike and the high-grade mineralisation remains open in all directions.

Results of the significant new drill intercepts include:

WR321:

331m @ 0.51 g/t Au & 0.93 % Cu from 694m

Including:

155m @ 0.88 g/t Au & 1.51 % Cu from 868m

WR327A:

478.4m @ 0.85 g/t Au & 1.36 % Cu from 506m

Including:

155m @ 1.47 g/t Au & 2.29 % Cu from 691m

WR328:

597m @ 0.57 g/t Au & 0.96 % Cu from 399m

Including:

198m @ 1.13 g/t Au & 1.88 % Cu from 788m

The Wafi-Golpu project area is located in the Morobe Province of PNG and is part of Harmony's 50/50 Joint Venture with Newcrest Mining Limited of Australia.

The high grade portions of copper-gold intercepts are coincident with stockwork veined and altered diorite porphyry. The porphyry is biotite altered, variably silicified and veined, and contains abundant chalcopyrite as fine disseminated sulphide. A halo of lower grade copper-gold mineralisation surrounds porphyry and comprises a stockwork vein network of laminated quartz-magnetite-chalcopyrite veins. Stockwork vein intensity is best developed at the diorite porphyry contact in the adjacent metasediments and gradually decreases away from the contact.

The tenor and continuity of the mineralisation is particularly encouraging. The average gold and copper grades of the Golpu West intercepts are significantly higher than the main Golpu porphyry, which for comparison averages 0.65 g/t Au and 1.4% copper. The current Golpu resource is 163 Mt @ 0.6 g/t gold and 1.1% copper for 2.93 Moz of gold and 1.76 million tonnes of copper.

The drilling has also intersected near surface supergene copper-gold mineralisation including:

WR316:

24m @ 0.6 g/t Au & 0.54% Cu from 82m

WR327A:

22m @ 0.55 g/t Au & 0.9% Cu from 175m

Harmony's Chief Executive Officer, Graham Briggs says, "We are thrilled with the outcome of the drilling results at Golpu West. The results are very encouraging and highlight the fact that the Golpu system is poorly constrained at depth. Excellent potential exists for additional mineralised intrusions and/or structural repetitions around the margins."

The way forward and concept studies

Drilling to scope out the geometry and full extent of the new mineralised zone is continuing, with three exploration drill

rigs. Two additional deep capacity rigs will arrive in mid-February to accelerate the work programme. It is expected that this drilling will significantly expand the current Golpu resource.

The 2007 Golpu pre-feasibility study contemplated a block cave operation that would mine 100 million tonnes of ore and produce 1.7 million ounces gold and 1.0Mt copper over a 10 year life of mine. Per the pre-feasibility study the operation would have a low cash cost of approximately US\$0.54/lb Cu (or \$300/ oz Au equivalent) but high capital expenditure of US\$1.3 billion and a maximum cash out of US\$1.0 billion. It was considered that a resource upgrade or

significant change in upfront capital would be the most likely means to increasing the margin and lowering the risk profile for a favourable development decision.

The Golpu West drill results outline potential for a step-change impact on the minable resource base. This would provide a key driver to fundamentally alter the economics of the project.

In addition to resources, other aspects of the concept study, which may change significantly from previous work include:

1. Reduced upfront infrastructure capital through advances caving technology, and staged development options
2. Geo-metallurgical solution for treatment of high sulphidation ore from the Wafi A,B and Link zones

The current schedule for completion of the new resource model and progressing of the concept study is June 2010. Below is an outline showing drilling results in relation to existing resources in the region.

* Refer to Harmony website for July 2009

resource statement

www.harmony.co.za

Ends.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated:

January 26, 2010

Harmony Gold Mining Company Limited

By:

/s/

Hannes Meyer

Name:

Hannes Meyer

Title: Financial Director