

HARMONY GOLD MINING CO LTD

Form 6-K

April 22, 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

22 April 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**

22 April 2010

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JSE: HAR

NYSE: HMY
NASDAQ: HMY
ISIN No.: ZAE000015228

Latest Golpu drilling results will have profoundly positive impact on project resource base

Johannesburg, Thursday, 22 April 2010. Harmony Gold Mining Company Limited (Harmony) today announced additional significant high grade drill intercepts from its 50:50 Morobe Mining Joint Venture in Papua New Guinea (PNG).

Harmony CEO Graham Briggs says: "These results, together with those released in January 2010, will have a profoundly positive impact on the resource base of the project. The drill programme at Golpu is testing an exploration target in the range of 500 to 800 million tonnes (Mt) at high grades of between 0.7% and 1.1% copper (Cu) and 0.5 to 0.7g/t gold (Au) for 8 to 18 million ounces (Moz) of gold and 3.5 to 8.8 Mt of copper. This target includes the current resource."

"Golpu could develop into one of the most significant copper-gold projects in PNG with a possible size potential of 13 Moz Au and 6.5 Mt Cu, putting it on a scale similar to other major copper-gold projects like OK Tedi and the historic mine in Bougainville. This is a very exciting possibility for investors".

New drill intercepts include:

WR331W_1

i

:

379m @ 0.88g/t Au and 1.05% Cu from 1062m

Including:

156m @ 1.09g/t Au and 1.48% Cu from 1149m

WR333

i

:

528m @ 0.70g/t Au and 1.41% Cu from 551m

Including:

187m @ 1.57g/t Au and 3.16% Cu from 892m

The mineralisation which is associated with diorite porphyry is located around the margin and to the northwest of the main Golpu orebody.

Mineralisation remains open to the northwest, to the south and at depth. Drilling to realise the full potential of the system is ongoing. In particular, the high-grade copper gold mineralisation in WR333 (187m @ 1.57 g/t Au and 3.16% Cu from 892m) is open along strike to the northwest and at depth.

WR333

WR331W_1

0 m

1,500 m

250 m

WR331W_1:

379m @ 0.88g/t Au & 1.05% Cu

from 1062m

Incl. 156m @ 1.09g/t Au & 1.48% Cu

from 1149m

WR333:

528m @ 0.70g/t Au & 1.41% Cu

from 551m

Incl. 187m @ 1.57g/t Au & 3.16%

Cu from 892m

WAFI

RESOURCE

103Mt @

1.9 g/t Au

6.2Moz Au

GOLPU >0.3% Cu

SCHEMATIC SECTION

163Mt @

1.1% Cu &

0.6g/t Au

1.7Mt Cu &

2.9Moz Au

(1)

GOLPU

RESOURCE

Assays pending

Golpu

Porphyry

Assays pending

>0.3% Cu

>1% Cu

>0.3% Cu

>1% Cu

Additional exploration work is underway on the adjacent Wafi gold lodes as well as at Golpu and concept studies on the Golpu and Wafi deposits are being undertaken. Results from this work together with a new resource estimate for the Golpu system will be released with the annual resource statement.

The diagram below indicates the schematic section through the Golpu deposit showing recent drill intercepts.

(1) 100% Wafi Golpu resource, refer www.harmony.co.za for July 2009 resource statement

I

Full assay results have not been received.

ii

Cautionary Note: It is important to note that the potential quantity and grade of this exploration target is conceptual in nature and is expressed in

100% equity terms. A resource estimation is underway but at this point there has been insufficient work to complete a Mineral Resource.
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:

April 22, 2010

Harmony Gold Mining Company Limited

By:

/s/

Hannes Meyer

Name:

Hannes Meyer

Title: Financial Director