HARMONY GOLD MINING CO LTD
Form 6-K
February 16, 2016
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 15 February 2016
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 X
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 X

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Listing codes:
JSE: HAR
NYSE: HMY
ISIN no:
ZAE000015228
Registration no: 1950/038232/06

Harmony Gold Mining Company Limited (Harmony), a world-class gold mining and exploration company, has operations and assets in South Africa and Papua New Guinea. Harmony, which has more than 60 years' experience in the industry, is the third largest gold producer in South Africa. Our assets include 9 underground mines and 1 open pit operation and several surface sources in South Africa. Our assets in PNG – an open pit mine (Hidden Valley), as well as the significant Golpu project – are held in a joint venture. We also own several exploration tenements, in Papua New Guinea.

The company's primary stock exchange listing is on the JSE with a secondary listing on the New York Stock Exchange. The bulk of our shareholders are in South Africa and the United States. Additional information on the company is available on the corporate website, www.harmony.co.za.

Golpu feasibility study confirms robust investment case

· High grades, early cash flow
· Staged development with future optionality and flexibility
· Robust returns
· Lowest quartile costs for copper
· Significant attributable annual production for Harmony at approximately 500 000 gold equivalent ounces per year during peak production

Johannesburg: Monday, 15 February 2016. Harmony Gold Mining Company Limited ("Harmony") is pleased to announce the results of the Golpu Stage 1 Feasibility
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and Stage 2 Prefeasibility studies and declare updated Resources and Reserves for the Golpu project. Both studies have confirmed a robust investment case – one that supports proceeding with the project

"The Golpu porphyry is a world-class resource due to its size, high grades, long-life and low operating costs. The design of the mine allows optionality and flexibility to scale the operation up with a relatively low capital investment in response to increasing commodity prices. Golpu is part of Harmony's future and will create value for our shareholders in the long term", says Harmony chief executive officer, Peter Steenkamp.

The Stage 1 project capital on a 100% basis is estimated at US$2.6bn, yielding an internal rate of return of 16%. The Stage 1 Feasibility study justifies the development of twin exploration access declines, with two proposed block caves designed to extract approximately 50% of the contained metal (gold and copper) of the Golpu reserve. The approximately 50% remaining reserve is to be extracted by a deeper block cave (BC3) below block cave 2 (Stage 2). The common path mining and processing infrastructure of Stage 1 will be utilised in support of the development of Stage 2.

Engagement with key stakeholders, including the PNG national government, the Morobe provincial government, landowners and community representatives continues so as to ensure clear alignment on the project objectives.

Key findings of the feasibility study[2]

- Low operating costs will withstand low commodity price cycles and will benefit from high returns in higher commodity price cycles
- The updated Ore Reserve as at 31 December 2015, is estimated to contain 5.5 million ounces of gold and 2.4 million tonnes of copper (Harmony's 50% interest)
- Project de-risked, with no significant deviation from the Stage 1 prefeasibility study economic outcomes and technical recommendations
- Golpu is amenable to "staged development"
  - allows for optimising the capital efficiency
  - progressively de-risks the project prior to further investments
- Financial metrics[3] of Stage 1:
  - Net present value (NPV): US$1.1bn
  - Internal rate of return (IRR): ~16%
  - Maximum negative free cash flow (100% basis): US$1.8bn
- Stage 1 targets higher-grade sections of the deposit thereby optimising free cash flow.
- The development of the near surface block cave 1 (BC1), as part of Stage 1, affords early cash flow thereby reducing the maximum negative cash outflow
- Block caving is the preferred mining method for the following reasons:
  - ore body geometry and indicative rock mass characteristics are suited to block caving
  - it is a high productivity, low operating cost underground mining method
- The Golpu Stage 2 Prefeasibility study focused on optimising Stage 1 and then expanding block cave 2 (BC2) throughput before the establishment of a third block cave (BC3) below BC2
- The project is located in close proximity to the City of Lae with established infrastructure such as roads, marine port, airport, and light industry
- Studies conducted by WorleyParsons (South Africa) and other consultants under direct management of the joint venture project team
  - more than 460 000 man hours worked on the latest studies

GOLPU STAGE 1 FEASIBILITY STUDY[2]

Stage 1 of the development of Golpu focuses on the development of two block caves, BC 1 and BC 2 and all associated infrastructure required. A third block cave, BC 3 is contemplated in Stage 2.

Schematic 1: Cross section of Golpu porphyry[4]

Summary of key metrics for Stage 1 (100%)[3]

Area	**Measure**	**Unit**	**Stage 1 FS**
Production			
	First ore milled[5]	Months from start of earthworks	Month ~60
	Steady-state production[5]	Months from start of earthworks	Month ~90
	Ore mined and milled	Mt	149
	Life of mine	Years	28
	Copper metal produced	Mt Cu	2.2
	Gold metal produced	Moz Au	3.6
	Peak Au production	koz pa	297
	Peak Cu production	kt pa	135
	Au recoveries	%	70
	Cu recoveries	%	94
Capital			
	Project capital	USD billion	2.6
	Sustaining capital	USD billion	1.6
	Total life of project capital	USD billion	

4.2
Maximum negative cash
flow
USD billion
1.8
Production
Total operating cost (real)
USD/t
30.66
Realisation cost
USD/t
17.61
Cash cost[6]
USD/lb produced
0.59
Total sustaining
production cost[7]
USD/lb produced
0.89
Total production cost[8]
USD/lb produced
1.45
Economic
Assumptions
Gold price
USD/oz
1200
Copper price
USD/lb
3.00
Exchange rates
AUD/USD
0.80
PGK/USD
2.85
Discount rate (real)
%
8.50
Stage 1
Outcomes
Net present Value
USD billion
1.1
Internal rate of return
%
~16

The operating cost estimate covers all the operating expenditure to mine, treat and administer extraction of the orebody,
as well as transporting, dewatering and ship-loading of the concentrate at the Port of Lae. Cash cost and total production costs include treatment and refining charges, freight to end customers, royalties and mining levies. Total production cost includes sustaining and construction capital costs. The realisation cost estimate in the financial model

equals U$17.61/t, this includes treatment and refinery costs, concentrate transport and handling costs, and royalties and
is not included in the total operating cost. Any real, above inflation, price escalation of costs to the time of forecast expenditure has been excluded. Costs are however sourced and forecast in the underlying currency in which they are incurred.

Additional information: BC1 and BC2

Ore extracted	**Metric**	**2016 Feasibility study**
BC1 - tonnes	Mt	8
BC1 – gold grade	g/t	0.99
BC1 – copper grade	%	2.00
BC2 - tonnes	Mt	143
BC2 – gold grade	g/t	1.05
BC2 – copper grade	%	1.54

Key milestones[9,10]

The project will only progress into execution upon the grant of a Special Mining Lease (SML) which will include all necessary permits, approvals and consents required from the Papua New Guinea Government, landowners and other relevant stakeholders. Assuming all such approvals are obtained, the development timeline outlined in the Stage 1 feasibility study is set out below.

Schematic 2: Development timeline

If signed prior to the grant of a SML, approval will be sought from the Boards of both Wafi Golpu joint venture parties to
bring forward the advanced exploration work and earthworks for establishment of the access declines. Advanced exploration via underground access will afford an opportunity to obtain further data at depth and as a result, a revisit of
the current proposed Stage 1 base case capital profile, schedule and execution approach.

Further work on the Stage 1 Feasibility study

As planned the following areas will be the focus of further assessment to optimise the study outcomes and the incorporation of additional data which will be collected in the next study phase.

Access declines: Declines towards the orebody affording drilling platforms is required in order to verify geotechnical and
hydrological interpretations of the orebody at depth

Geotechnical interpretation: Further underground drilling and mapping work is required to confirm assumptions of the rock mass characteristics in each cave and the rock mass response to the changing stress regime.

Tailings management: Further assessment of tailings disposal options

Hydrology: The management of water will be central to the success of the mining operation, primarily due to the nature of the geological environment of the project site. Further investigation and modelling of water will focus on increasing the confidence in the geohydrology model by obtaining additional data from drilling campaigns, modelling the effectiveness of a dewatering bore field around the block cave subsidence zone, and streamflow and surface hydrology modelling and management

Permitting and environmental approvals: Work will continue with the PNG Government to obtain statutory environmental approvals and other regulatory permits for the project

Port and power: Further assessment of optimal arrangements for port facilities and power supply

Community engagement

In parallel with further technical studies and project definition, the local communities will be actively engaged and appraised of the project development roadmap and next steps. In the December 2015 quarter, 90 meetings attracting 2,756 local community participants were held. The three major communities involved are the Hengambu, Yanta and Babuaf spread over 15 villages in the region. The local communities remain supportive of the project.

Capital costs

Harmony’s share (50%) of the estimated capital requirements for Stage 1 from grant of the Special Mining Lease are approximately as follows:

Schematic 3: Harmony’s (50%) estimate capital requirements

GOLPU STAGE 2 PREFEASIBILITY STUDY

The Stage 2 pre-feasibility study was conducted in parallel to the Stage 1 feasibility study. The first step of Stage 2 looked at debottlenecking the 6Mtpa capacity from Stage 1 BC2. The debottlenecking increased the production capacity
to 7Mtpa by making minor and low cost modifications to the process plant grinding circuit and the underground material
handling system. (Stage 2-1)

The access declines to the block caves in both the Stage 1 feasibility study and Stage 2 pre-feasibility study were treated as common path access imbedding optionality and flexibility in the designs to scale the operation up with a relatively low capital investment in response to increasing commodity prices.

The second step for Stage 2 is increasing the mine's production rate. By optimising all existing Stage 1 infrastructure and increasing the size of the underground loader fleet a higher mining production output from BC2 can be achieved, without a significant capital investment. A second process plant with a capacity of 7Mtpa will be constructed to bring total plant capacity to 14mtpa. (Stage 2-2)

The third and final stage investigated by the pre-feasibility study for Stage 2 was to extend the life of the operation with
the construction of a third block cave below BC2. Additional capital is required to extend the decline access and conveyor belt system, the ventilation system and establish the associated underground infrastructure (Stage 2-3).

Schematic 4: Staged development of Stage 1 and Stage 2

Prefeasibility Study key metrics for Stage 2 (100%)[11,12,13]

Description	**Unit**	**Stage 1 FS**	**Stage 2 PFS 2-1**	**Stage 2 PFS 2-2**	**Stage 2 PFS 2-3**
Financials					
NPV*	USD M real	1,087	1,240	1,338	1,954
IRR*	%	15.6	16.3	16.8	17.5
Maximum negative cash flow (real)	USD M	1,763	1,763	1,763	1,763
Free Cash Flow Generation*	USD M real p.a. steady state avg	249	298	405	402
Schedule					
Ore throughput*	Mtpa	6	7	14	14

First ore
Date
FY2023
FY2023
FY2023
FY2023
Life of Mine
years
28
25
18
35
Production
Ore mined*
Mt
149
153
155
379
Cu Grade
%
1.58
1.58
1.57
1.26
Au Grade
g/t
1.06
1.06
1.05
0.91
Cu Recovered*
kt
2,233
2,301
2,306
4,547
Cu Recovered
Ktpa LOM
average
80
92
128
130
Au Recovered*
koz
3,573
3,527
3,509
7,058
Au Recovered

koz pa LOM
average
128
141
195
202
Capital expenses
Project capital
USD M real
2,640
2,656
2,656
2,656
Expansion capital
USD M real
-
10
572
1,261
Sustaining and
Expansion Capital
USD M real
1,551
1,499
2,175
3,725
**Operating
expenses**
Total Operating
Cost
USD/t ore
milled
30.66
28.12
24.16
23.95
Cash Cost
USD/lb Cu real
LOM average
0.59
0.55
0.44
0.60
*Cumulative

RESOURCE AND RESERVE UPDATE (100%)

Mineral Resource

The Golpu Mineral Resource has been updated as at 31 December 2015 to align with the results of Golpu 2015 Stage 1
feasibility study and Stage 2 (Life-of-Mine) prefeasibility study. The key change is the applied cut-off grade that defines

the volume with reasonable prospects of eventual economic extraction. The Golpu Mineral Resource is constrained within a marginal breakeven shell using WGJV 2015 gold and copper revenues and the estimated long term cost structure developed in the 2015 Golpu Stage 2 PFS. The December 2014 Mineral Resource was reported within a 0.2%
Cu shell representative of the revenue and cost structures of the 2012 Golpu PFS. There has been no additional drilling
in 2015 that impacts the Golpu mineralised volume and the underlying geology and grade model is unchanged from that
used in the December 2014 Mineral Resource.
See the updated Resource table below:

Table 1: Current Indicated and Inferred Mineral Resource (100%)

Metal >>	Gold		Copper		Silver		Molybdenum	
	tonnes	grade	metal	grade	metal	grade	metal	grade	metal
	Mt	g/t	Moz	%	Mt	g/t	Moz	ppm	kt
Total Mineral Resource	820	0.70	18.6	1.0	8.6	1.3	33.1	90	74
Measured Mineral									

Resource
-
-
-
-
-
-
-
-
-
Indicated
Mineral
Resource
690
0.71
15.8
1.1
7.5
1.3
28.5
94
65
Inferred Mineral
Resource
140
0.63
2.8
0.85
1.2
1.1
4.6
72
9.7
Rounding in table may cause discrepancies.

Table 2: Current Mineral Resource compared with previous estimate (100%)

Metal >>
Gold
Copper
Silver
Molybdenum
tonnes
grade
metal
grade
metal
grade
metal
grade
metal
Mt
g/t

Moz
%
Mt
g/t
Moz
ppm
kt
Previous Mineral Resource
1 080
0.59
20.2
0.87
9.4
1.09
37.5
94
100
This Mineral Resource
820
0.70
18.6
1.1
8.6
1.3
33.1
90
74

Rounding in table may cause discrepancies

For full details of the Mineral Resource estimation basis refer to the Appendix on the Harmony website at https://www.harmony.co.za/our-business/exploration/golpu-project.

Ore Reserve

The Golpu Reserve is informed by the 2015 Stage 1 feasibility study and prefeasibility study (Stage 2) of the Golpu project.

The updated Reserve is tabled below:

Table 1 – Current Ore Reserve

Ore	Gold		Copper	
	tonnes	grade	metal	grade
	metal			
	Mt	g/t	Moz	%
Mt				
Total Ore Reserve	380	0.91	11.0	1.3%
4.8				
Proved Ore Reserve	-	-	-	-
-				
Probable Ore Reserve	380	0.91	11.0	1.3%
4.8				

The key changes to the December 2015 Ore Reserve relative to the 30 June 2015 Ore Reserve are primarily due to:

- Revised Operating and Sustaining Capital costs following the completion of the Stage 2 prefeasibility Study in December 2015
- Application of updated Modifying Recovery Factors for Mining
- Removal of Silver and Molybdenum from the estimate

Table 2 – Current Ore Reserve Compared With Previous Estimate (100%)

Ore	Gold		Copper		Silver		Molybdenum	
	tonnes	grade	metal	grade	metal	grade	metal	

grade
metal
grade
metal
grade
metal
grade
metal
Mt
g/t
Moz
%
Mt
g/t
Moz
ppm
kt
Previous Ore Reserve
450
0.86
12.4
1.2%
5.4
1.4
20
80
36
This Ore Reserve
380
0.91
11.0
1.3%
4.8
-
-
-
-

For full details of the Ore Reserve estimation basis refer to the Appendix on the Harmony website at https://www.harmony.co.za/our-business/exploration/golpu-project.

For full details of Harmony's other Resources and Reserves please refer to www.harmony.co.za.

Harmony updates its full Resources and Reserves statement on 26 October 2016 with the publication of the Integrated Annual Report.

PNG tax and project interest

• Company tax rate is 30%
• Mining royalty 2% of revenue less shipping and refining costs
• Interest withholding tax is 0% (approved resource projects only)
• PNG government retains the right to acquire up to 30% of the project up to the grant of the special mining lease

-
payment based on historical exploration expenditure
full equity participant thereafter
-

About the Golpu project

Harmony and Newcrest Mining Limited each currently own 50% of Golpu through the Wafi-Golpu Joint Venture. The
PNG Government retains the right to purchase, for its pro-rata share of historical costs, up to a 30% equity interest in

any mineral discovery at Wafi-Golpu, at any time before the commencement of mining. If the PNG Government chooses
to take-up its full 30% interest, the interest of each of Newcrest and Harmony will become 35%.
The Golpu deposit is located approximately 65km south-west of Lae in the Morobe Province of PNG which is the second
largest city in PNG and will host Golpu's export facilities. The proposed mine site sits at an elevation of approximately 400 metres above sea level in moderately hilly terrain and is located near the Watut River approximately 30km upstream
from the confluence of the Watut and Markham rivers.

Location of Wafi-Golpu

Schematic 5: Map of Papua New Guinea

Footnotes in support of press release:

[1]Full feasibility study level is considered to be at ±15% accuracy.

[2]Findings are subject to the further feasibility work described above to be undertaken.

*[3]As timing for finalisation of PMDA is uncertain, valuation outcomes are shown at the time of commencement of earthworks for the
access declines. Costs are based on 2016 real estimates. Neither the costs nor cost escalation impacts prior to commencement of
earthworks are included in the valuation outcomes. All numbers are based on information derived from work undertaken for the Stage
1 feasibility study and are subject to completion of the further feasibility study work, investment approval, receipt of all necessary
permits and approvals and market and operating conditions and engineering. Refer to the statement on last page in relation to
forward looking statements. All figures are at 100% ownership unless otherwise stated.*

*[4]Cave wireframes are a representation of the shape of economic draw of mixed cave material from the Mineral Resource and not a
cave excavation shape*

[5]Subject to Advanced Exploration Work.

[6]Includes gold credit and realisation costs

[7]Cash cost including sustaining capital

[8]Includes construction capital, sustaining capital and gold credits

[9]Timeline is indicative to prefeasibility study level

*[10]Concentrator expected to achieve 3Mpta approximately three months after BC1 first production then expanded at later date to
accommodate production from BC2 at 6mMpa*

*[11]Costs are based on 2016 real estimates. All numbers are based on information derived from work undertaken for the Stage 1
feasibility study and are subject to completion of feasibility work, investment approval, receipt of all necessary permits and approvals
and changes to market and operating conditions and engineering. Refer to the statement on last page in relation to forward looking
statements.*

*[12]As timing for finalisation of a PMDA is uncertain valuation outcomes are shown at the time of the grant of the SML. Costs are
based on 2016 real estimates. Neither the costs nor cost escalation impacts prior to commencement of earthworks are included in*

the valuation outcomes.
[13]All prefeasibility study outcomes are shown on a Life of Mine basis and are inclusive of Stage 1.

FORWARD-LOOKING STATEMENTS
PRIVATE SECURITIES LITIGATION REFORM ACT
Safe Harbour Statement

This report contains forward-looking statements within the meaning of the safe harbor provided by Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended, with respect to our financial condition, results of operations, business strategies, operating efficiencies, competitive positions, growth opportunities for existing services, plans and objectives of management, markets for stock and other matters. These include all statements other than statements of historical fact, including, without limitation, any statements proceeded by, followed by, or that include the words "targets", "believes", "expects", "aims" "intends" "will", "may", "anticipates", "would", "should", "could", "estimates", "predict", "continue" or similar expressions or the negative thereof.

These forward-looking statements, including, among others, those relating to our future business prospects, revenues and income, wherever they may occur in this report and the exhibits to this report, are essentially estimates reflecting the best judgmen t of our senior management and involve a number of risks and uncertainties that could cause actual results to differ materially from t hose suggested by the forward-looking statements. As a consequence, these forward-looking statements should be considered in light of various important factors, including those set forth in this report. Important factors that could cause actual results to differ materially from estimates or projections contained in the forward-looking statements include, without limitation: overall economic and business conditions in South Africa, Papua New Guinea, Australia and elsewhere, estimates of future earnings, and the sensitivity of earnings to the gold and other metals prices, estimates of future gold and other metals production and sa les, estimates of future cash costs, estimates of future cash flows, and the sensitivity of cash flows to the gold and other metals prices, statements regarding future debt repayments, estimates of future capital expenditures, the success of our business strategy, development activities and other initiatives, estimates of reserves statements regarding future exploration results and the replacement of reserves, the ability to achieve anticipated efficiencies and other cost savings in connection with past and future acquisitions, fluctuations in the market price of gold, the occurrence of hazards associated with underground and surface gol d mining, the occurrence of labor disruptions, power cost increases as well as power stoppages, fluctuations and usage constraints, supply chain shortages and increases in the prices of production imports, availability, terms and deployment of capital, chan ges in government regulation, particularly mining rights and environmental regulation, fluctuations in exchange rates, the

adequacy of
the Group's insurance coverage and socio-economic or political instability in South Africa and Papua New Guinea and other
countries in which we operate.

For a more detailed discussion of such risks and other factors (such as availability of credit or other sources of financing), see the
Company's latest Integrated Annual Report on Form 20-F which is on file with the Securities and Exchange Commission, as well as
the Company's other Securities and Exchange Commission filings. The Company undertakes no obligation to update publicly or
release any revisions to these forward-looking statements to reflect events or circumstances after the date of this annual report or
to reflect the occurrence of unanticipated events, except as required by law.

Competent Person's Statement

The information in this presentation that relates to the Golpu Mineral Resources is based on information compiled by Mr Paul
Dunham. Mr Dunham is Principal Geologist, Ore Deposit Knowledge for Newcrest Mining Limited. He is a full-time employee of
Newcrest Mining Limited. Newcrest is Harmony's 50/50 Joint Venture Partner in the Wafi Golpu Joint Venture.
The information in this presentation that relates to the Golpu Ore Reserves is based on information compiled by Mr Pasqualino
Manca. Mr Manca is the Area Manager Mining – Golpu Project Feasibility Study and a full-time employee of Newcrest Mining Limited.
Both are Members of The Australasian Institute of Mining and Metallurgy and both have sufficient experience which is relevant to the
styles of mineralisation and types of deposits under consideration and to the activity which they are undertaking to qualify as a
Competent Persons as defined in the JORC Code and SAMREC. Mr Dunham and Mr Manca consent to the inclusion in this
presentation of the matters based on the information in the form and context in which it appears including sampling, analytical and
test data underlying the results
Mr Gregory Job, BSc, MSc, who has 27 years' relevant experience and a member of the Australian Institute of Mining and Metallurgy
(AusIMM), is Harmony's competent person for Papua New Guinea.
Mr Jaco Boshoff, BSc (Hons), MSc, MBA, Pr. Sci. Nat, MSAIMM, MGSSA is Harmony's lead competent person. Mr Boshoff who has
20 years' relevant experience, is registered with the South African Council for Natural Scientific Professions (SACNASP) and is a
member of the South African Institute of Mining and Metallurgy (SAIMM).

Please refer to our website at https://www.harmony.co.za/our-business/exploration/golpu-project for the appendix, the presentation and a video in support of this release.

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: February 15, 2016

Harmony Gold Mining Company Limited

By:

/s/ Frank Abbott

Name:

Title: Financial Director