

ANGLOGOLD ASHANTI LTD

Form 6-K

April 11, 2013

**UNITED STATES**

**SECURITIES AND EXCHANGE COMMISSION**

**WASHINGTON, DC 20549**

**FORM 6-K**

**REPORT OF FOREIGN PRIVATE ISSUER**

**PURSUANT TO RULE 13a-16 OR 15d-16 OF**

**THE SECURITIES EXCHANGE ACT OF 1934**

Report on Form 6-K dated April 11, 2013

Commission File Number 1-14846

AngloGold Ashanti Limited

(Name of registrant)

76 Jeppe Street

Newtown, 2001

(P.O. Box 62117, Marshalltown, 2107)

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 if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Yes

**No**

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Yes

**No**

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**

Enclosure: **ANGLOGOLD ASHANTI MINERAL RESOURCE AND ORE RESERVE  
STATEMENT FOR THE YEAR ENDED DECEMBER 31, 2012**

**2012**

{  
MINERAL RESOURCE  
AND ORE RESERVE  
REPORT

## ABOUT THIS REPORT

AngloGold Ashanti's Mineral Resource and Ore Reserve are reported in accordance with the minimum standards described by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2004 Edition), and also conform to the standards set out in the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (The SAMREC Code, 2007 edition).

The Mineral Resource is inclusive of the Ore Reserve component unless otherwise stated. Note also that all Mineral Resources and Ore Reserves listed in this document are attributable unless otherwise stated.

Information is presented either by operating region, country, mine or project. The following tables and graphs are used to illustrate developments across AngloGold Ashanti's operations during 2012:

Inclusive Mineral Resource and Ore Reserve comparison by region, country, mine and project; development sampling results; details of average drill-hole spacing and type; Exclusive Mineral Resource; Mineral Resource below infrastructure; Inclusive Mineral Resource and Ore Reserve by-products; year-on-year reconciliation of the Mineral Resource and Ore Reserve; Inferred Mineral Resource in business plan; Ore Reserve modifying factors; grade tonnage information on the Mineral Resource and lists of appointed Competent Persons. Topics for brief discussion include regional overview; country overview; Mineral Resource estimation; Ore Reserve estimation; location; geology; exploration and projects.

This document, the Mineral Resource and Ore Reserve Report 2012, is a key component of the AngloGold Ashanti suite of 2012 annual reports produced to record the company's performance regarding its finances, operations and sustainability activities for the year ended 31 December 2012.

For ease of use, a detailed guide to using the 2012 reports may be found on the flap of the inside back cover of this report. An interactive online guide is to be found at [www.aga-reports.com](http://www.aga-reports.com).

Note: Rounding of numbers in this document may result in minor computational discrepancies. Throughout this report, the metric system of measurement is used and dollar or \$ represents US dollar unless otherwise stated. All grade tonnage graphs in this document are for Mineral Resources.

### Forward-looking statements

Certain statements contained in this document, other than statements of historical fact, including, without limitation, those concerning the economic outlook for the gold mining industry, expectations regarding gold prices, production, cash costs and other operating results, return on equity, productivity improvements, growth prospects and outlook of AngloGold Ashanti's operations, individually or in the aggregate, including the achievement of project milestones, commencement and completion of commercial operations of certain of AngloGold Ashanti's exploration and production projects and the completion of acquisitions and dispositions, AngloGold Ashanti's

liquidity and capital resources and capital expenditures and the outcome and consequence of any potential or pending litigation or regulatory proceedings or environmental issues, are forward-looking statements regarding AngloGold Ashanti's operations, economic performance and financial condition. These forward-looking statements or forecasts involve known and unknown risks, uncertainties and other factors that may cause AngloGold Ashanti's actual results, performance or achievements to differ materially from the anticipated results, performance or achievements expressed or implied in these forward-looking statements. Although AngloGold Ashanti believes that the expectations reflected in such forward-looking statements and forecasts are reasonable, no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic, social and political and market conditions, the success of business and operating initiatives, changes in the regulatory environment and other government actions, including environmental approvals, fluctuations in gold prices and exchange rates, the outcome of pending or future litigation proceedings, and business and operational risk management. For a discussion of such risk factors, refer to the section titled "Risk Factors related to AngloGold Ashanti's suite of 2012 reports" on the AngloGold Ashanti online corporate report website at [www.aga-reports.com](http://www.aga-reports.com). These factors are not necessarily all of the important factors that could cause AngloGold Ashanti's actual results to differ materially from those expressed in any forward-looking statements. Other unknown or unpredictable factors could also have material adverse effects on future results. Consequently, readers are cautioned not to place undue reliance on forward-looking statements. AngloGold Ashanti 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 Mineral Resource and Ore Reserve Report or to reflect the occurrence of unanticipated events, except to the extent required by applicable law. All subsequent written or oral forward-looking statements attributable to AngloGold Ashanti or any person acting on its behalf are qualified by the cautionary statements herein. This communication may contain certain "Non-GAAP" financial measures. AngloGold Ashanti utilises certain Non-GAAP performance measures and ratios in managing its business. Non-GAAP financial measures should be viewed in addition to, and not as an alternative for, the reported operating results or cash flow from operations or any other measures of performance prepared in accordance with IFRS. In addition, the presentation of these measures may not be comparable to similarly titled measures other companies may use. AngloGold Ashanti posts information that is important to investors on the main page of its website at [www.anglogoldashanti.com](http://www.anglogoldashanti.com) and under the "Investors" tab on the main page. This information is updated regularly. Investors should visit this website to obtain important information about AngloGold Ashanti.

CONTENTS

GROUP OVERVIEW

06

Mineral Resource by country  
(inclusive of Ore Reserve)

07

Mineral Resource by country  
(exclusive of Ore Reserve)

08

Ore Reserve by country

10

Reconciliation of Mineral Resource

12

Reconciliation of Ore Reserve

SOUTH AFRICA

16

South Africa

18

Great Noligwa

22

Kopanang

27

Moab Khotsong

33

Mponeng

40

Savuka

43

TauTona

47

Surface operations

52

Uranium

CONTINENTAL AFRICA

56

Democratic Republic of the Congo

57

Kibali

61

Mongbwalu

64

Ghana

65

Iduapriem

69

Obuasi

75

Guinea

76

Siguiri

83

Mali	
84	
Morila	
87	
Sadiola	
93	
Yatela	
97	
Namibia	
98	
Navachab	
102	
Tanzania	
103	
Geita	
AUSTRALASIA	
114	
Australia	
115	
Sunrise Dam	
120	
Tropicana	
AMERICAS	
128	
Argentina	
129	
Cerro Vanguardia	
134	
Brazil	
136	
AGA Mineração	
151	
Serra Grande	
156	
Colombia	
157	
Gramalote	
160	
La Colosa	
164	
United States of America	
165	
Cripple Creek & Victor (CC&V)	
ADMINISTRATIVE	
INFORMATION	
170	
Definitions	
172	
Glossary of terms	
175	
Abbreviations	

**02**

}

**14**

}

**54**

}

**170**

}

**126**

}

**112**

}

See the guide to using our reports  
on the inside back cover and flap.

Guide to using our reports

{

**1**

CONTENTS

GROUP  
OVERVIEW

}

*Guinea: Siguiri*

**2012** MINERAL RESOURCE AND ORE RESERVE REPORT

**2**

}



## GROUP OVERVIEW

This section provides an overview of AngloGold Ashanti's Mineral Resource and Ore Reserve position and the changes thereto in 2012.

10

4

5

6

11

7

8

9

12

2 13

1

3

Americas

Continental Africa

South Africa

Australasia

OPERATIONS

1

Argentina

5

Guinea

8

South Africa

9

Tanzania

Cerro Vanguardia (92.5%)

Siguiri (85%)

Vaal River

Geita

2

Australia

6

Mali

Great Noligwa

10

United States

Sunrise Dam

Morila (40%)

Kopanang

Cripple Creek & Victor

3

Brazil

Sadiola (41%)

Moab Khotsong

(CC&V)

Serra Grande

(1)

Yatela (40%)

West Wits

AGA Mineração

7

Namibia

Mponeng

4

Ghana

Navachab

Savuka

Iduapriem

TauTona

Obuasi

Surface operations

(2)

(1)

*Effective 1 July 2012, AngloGold Ashanti increased its shareholding from 50% to 100%.*

(2)

*On 20 July 2012, AngloGold Ashanti acquired First Uranium (Pty) Limited, which owns Mine Waste Solutions (MWS). MWS is a recently commissioned retreatment operation in South Africa's Vaal River area in the immediate vicinity of AngloGold Ashanti's own tailings facilities.*

#### MAJOR PROJECTS

11

Colombia

12

DRC

13

Australia

Gramalote (51%)

Kibali (45%)

Tropicana (70%)

La Colosa

Mongbwalu (86.2%)

Percentages in brackets

indicate the ownership

interest of AngloGold

Ashanti, whether held

directly or indirectly. All

operations and projects

are 100%-owned unless

otherwise indicated.

{

3

#### GROUP OVERVIEW

The AngloGold Ashanti Mineral Resource and Ore Reserve are reported in accordance with the minimum standards described by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2004 Edition), and also

conform to the standards set out in the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral

Reserves (the SAMREC Code, 2007 edition). Mineral Resource is inclusive of the Ore Reserve component unless otherwise stated.

AngloGold Ashanti strives to actively create value by growing its major asset – the Mineral Resource and Ore Reserve. This drive is

based on active, well-defined brownfields and greenfields exploration programmes, innovation in both geological modelling and mine

planning and continual optimisation of its asset portfolio.

#### MINERAL RESOURCE

The total Inclusive Mineral Resource increased from 230.9Moz in December 2011 to 241.5Moz in December 2012. A gross annual

increase of 15.8Moz occurred before depletion, while the net increase after allowing for depletion is 10.7Moz.

Changes in economic

assumptions from December 2011 to December 2012 resulted in a 1.2Moz increase to the Inclusive Mineral Resource, whilst

exploration and modelling resulted in an increase of 14.4Moz. Depletion from the Inclusive Mineral Resource for the year totalled

5.1Moz. The acquisition of the additional 50% of Serra Grande and the purchase of Mine Waste Solutions added a total of 3.8Moz

to the Mineral Resource. A decrease of 3.7Moz resulted from various other factors. The Mineral Resource has been estimated at a

gold price of US\$2,000/oz (2011: US\$1,600/oz).

Inclusive Mineral Resource

Moz

Mineral Resource as at 31 December 2011

230.9

Reductions

Great Noligwa

Revisions due to reduced likelihood of eventual extraction

(2.8)

Obuasi

Revised estimates of historic mining

(2.0)

CC&V

Combination of increased costs and revised metallurgical recoveries

(1.1)

Kopanang

Negative exploration results and depletion

(1.0)

Other

Total of non-significant changes

(1.9)

Additions

Tropicana

Reporting of Havana as an open pit Mineral Resource

1.0

Mponeng  
Revised geological modelling of the Ventersdorp Contact Reef  
1.3

La Colosa  
Exploration success  
10.6

Other  
Total of non-significant changes  
2.6

Acquisitions  
Serra Grande  
Acquisition of the remaining 50% of the operation  
1.2

Mine Waste Solutions  
Acquisition of Mine Waste Solutions  
2.7

Mineral Resource as at 31 December 2012  
241.5

*Rounding of figures may result in computational discrepancies.*

#### ORE RESERVE

The AngloGold Ashanti Ore Reserve reduced from 75.6Moz in December 2011 to 74.1Moz in December 2012. A gross annual increase of 3.2Moz occurred before depletion of 4.7Moz. The decrease net of depletion was therefore 1.5Moz.

Changes in economic assumptions from 2011 to 2012 resulted in a reduction of 0.6Moz to the Ore Reserve, while exploration and modelling resulted in an increase of 0.6Moz. The acquisition of the remaining 50% of Serra Grande and Mine Waste Solutions added a further 2.8Moz.

The remaining increase of 0.4Moz resulted from various other factors. The Ore Reserve has been calculated using a gold price of US\$1,300/oz (2011: US\$1,100/oz).

#### THE YEAR IN REVIEW

AngloGold Ashanti strives to actively create value by growing its major asset – the Mineral Resource and Ore Reserve.

#### **2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**4**  
}

Ore Reserve

Moz

Ore Reserve as at 31 December 2011

75.6

Reductions

Kopanang

Depletion and minor model revision

(1.4)

Obuasi

Revised mine planning parameters and geotechnical review

(0.9)

Great Noligwa

Economic driven reduction of underground mining footprint

(0.7)

Other

Total non-significant changes

(2.7)

Additions

Kibali

Open pit increase due to additional metal defined by grade control drilling

0.4

Geita

Positive economic changes

0.7

Other

Total non-significant changes

0.3

Acquisitions

Serra Grande

Purchase of remaining 50% of the operation

0.4

Mine Waste Solutions

Purchase of Mine Waste Solutions

2.4

Ore Reserve as at 31 December 2012

74.1

*Rounding of figures may result in computational discrepancies.*

#### BY-PRODUCTS

Several by-products are recovered as a result of the processing of the gold Ore Reserve. These include 73,492t of uranium oxide from

the South African operations, 439,564t of sulphur from Brazil and 40.7Moz of silver from Argentina.

#### COMPETENT PERSONS

The information in this report relating to exploration results, Mineral Resources and Ore Reserves is based on information compiled by

the Competent Persons. The Competent Persons consent to the inclusion of Exploration Results, Mineral Resource and Ore Reserve

information in this report, in the form and context in which it appears.

During the past decade, the company has developed and implemented a rigorous system of internal and external reviews of Exploration

Results, Mineral Resources and Ore Reserves.

T

he following operations were subject to an external audit in line with the policy that each operation will be audited at least once in a three-year period:

- Iduapriem (Mineral Resource only)
- Kibali (Mineral Resource only)
- Sadiola
- Vaal River Surface Operations
- AGA Mineração – Córrego do Sítio

The external audits were conducted by the following three companies QG (Iduapriem and Kibali), Optiro (Sadiola and Vaal River

Surface) and TetraTech (AGA Mineração – Córrego do Sítio). Certificate of competence documentation has been received from all

companies conducting the external audits to state that the Mineral Resource and/or Ore Reserve comply with the JORC Code (2004

edition) and the SAMREC Code (2007 edition).

Numerous internal Mineral Resource and Ore Reserve process reviews were completed and all operational submissions were signed

off by a Competent Person as defined by the JORC (JORC Code, 2004 Edition) and SAMREC codes (The SAMREC Code, 2007

edition). A documented chain of responsibility exists from the Competent Persons at the operations to the company's Mineral Resource

and Ore Reserve Steering Committee. Accordingly, the Chairman of the Mineral Resource and Ore Reserve Steering Committee,

VA Chamberlain, MSc (Mining Engineering), BSc (Hons) (Geology), MGSSA, FAusIMM, assumes responsibility for the Mineral Resource

and Ore Reserve processes for AngloGold Ashanti and is satisfied that the Competent Persons have fulfilled their responsibilities.

{

5

GROUP OVERVIEW

MINERAL RESOURCE BY COUNTRY  
INCLUSIVE OF ORE RESERVE (ATTRIBUTABLE)

Tonnes

million

Grade

g/t

Contained gold

as at 31 December 2012

Category

Tonnes

Moz

South Africa

Measured

183.97

2.33

428.52

13.78

Indicated

964.52

2.16

2,080.80

66.90

Inferred

53.34

10.45

557.39

17.92

Total

1,201.83

2.55

3,066.71

98.60

Democratic Republic of the Congo

Measured

1.97

3.00

5.89

0.19

Indicated

63.18

3.70

233.93

7.52

Inferred

30.43

2.91

88.69

2.85

Total

95.58

3.44

328.51  
10.56  
Ghana  
Measured  
64.84  
4.63  
300.44  
9.66  
Indicated  
103.86  
3.87  
401.45  
12.91  
Inferred  
150.37  
2.87  
431.63  
13.88  
Total  
319.07  
3.55  
1,133.52  
36.44  
Guinea  
Measured  
38.45  
0.63  
24.15  
0.78  
Indicated  
125.81  
0.72  
90.37  
2.91  
Inferred  
56.71  
0.82  
46.32  
1.49  
Total  
220.97  
0.73  
160.84  
5.17  
Mali  
Measured  
9.16  
0.94  
8.63  
0.28  
Indicated



52.02  
1.81  
94.30  
3.03  
Inferred  
27.75  
0.94  
26.00  
0.84  
Total  
88.93  
1.45  
128.93  
4.15  
Namibia  
Measured  
17.21  
0.64  
11.03  
0.35  
Indicated  
96.58  
1.22  
117.73  
3.79  
Inferred  
7.76  
1.08  
8.36  
0.27  
Total  
121.55  
1.13  
137.12  
4.41  
Tanzania  
Measured  
—  
—  
—  
—  
Indicated  
103.81  
2.63  
273.00  
8.78  
Inferred  
39.21  
2.78  
109.00  
3.50

Total  
143.02  
2.67  
382.00  
12.28  
Australia  
Measured  
36.46  
1.70  
62.00  
1.99  
Indicated  
71.84  
2.10  
150.68  
4.84  
Inferred  
14.98  
3.13  
46.82  
1.51  
Total  
123.28  
2.10  
259.50  
8.34  
Argentina  
Measured  
11.60  
1.59  
18.48  
0.59  
Indicated  
36.91  
2.87  
105.90  
3.40  
Inferred  
7.49  
2.98  
22.34  
0.72  
Total  
56.00  
2.62  
146.72  
4.72  
Brazil  
Measured  
14.52  
5.81

84.40  
2.71  
Indicated  
21.01  
5.31  
111.51  
3.59  
Inferred  
48.74  
5.29  
257.63  
8.28  
Total  
84.27  
5.38  
453.54  
14.58  
Colombia  
Measured  
15.68  
0.85  
13.30  
0.43  
Indicated  
34.36  
0.79  
27.21  
0.87  
Inferred  
1,025.23  
0.85  
873.63  
28.09  
Total  
1,075.27  
0.85  
914.14  
29.39  
United States  
Measured  
267.56  
0.77  
207.24  
6.66  
Indicated  
208.89  
0.67  
140.04  
4.50  
Inferred  
84.56

0.64  
53.87  
1.73  
Total  
561.01  
0.72  
401.15  
12.90  
Total  
Measured  
661.42  
1.76  
1,164.08  
37.43  
Indicated  
1,882.79  
2.03  
3,826.92  
123.04  
Inferred  
1,546.58  
1.63  
2,521.68  
81.07  
Total  
4,090.79  
1.84  
7,512.68  
241.54

*Rounding of figures may result in computational discrepancies.*

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**6**  
}

Tonnes  
million  
Grade  
g/t  
Contained gold  
as at 31 December 2012  
Category  
Tonnes  
Moz  
South Africa  
Measured  
16.52  
18.23  
301.15  
9.68  
Indicated  
249.09  
4.56  
1,136.02  
36.52  
Inferred  
27.64  
8.79  
242.82  
7.81  
Total  
293.25  
5.73  
1,679.99  
54.01  
Democratic Republic of the Congo  
Measured  
0.37  
1.85  
0.68  
0.02  
Indicated  
28.38  
3.24  
91.92  
2.96  
Inferred  
30.43  
2.91  
88.69  
2.85  
Total  
59.18  
3.06  
181.29  
5.83

Ghana  
Measured  
21.63  
7.16  
154.96  
4.98  
Indicated  
48.49  
3.50  
169.84  
5.46  
Inferred  
150.35  
2.86  
429.66  
13.81  
Total  
220.47  
3.42  
754.46  
24.26  
Guinea  
Measured  
1.03  
0.52  
0.54  
0.02  
Indicated  
55.92  
0.73  
40.74  
1.31  
Inferred  
56.71  
0.82  
46.32  
1.49  
Total  
113.66  
0.77  
87.60  
2.82  
Mali  
Measured  
5.22  
0.73  
3.82  
0.12  
Indicated  
23.92  
1.50

35.79  
1.15  
Inferred  
27.75  
0.94  
26.00  
0.84  
Total  
56.89  
1.15  
65.61  
2.11  
Namibia  
Measured  
5.89  
0.53  
3.12  
0.10  
Indicated  
56.10  
1.07  
60.17  
1.93  
Inferred  
7.76  
1.08  
8.36  
0.27  
Total  
69.75  
1.03  
71.65  
2.30  
Tanzania  
Measured  
—  
—  
—  
—  
Indicated  
42.97  
2.68  
115.34  
3.71  
Inferred  
35.95  
2.74  
98.59  
3.17  
Total  
78.92

2.71  
213.93  
6.88  
Australia  
Measured  
3.33  
1.14  
3.80  
0.12  
Indicated  
45.02  
1.94  
87.13  
2.80  
Inferred  
14.98  
3.13  
46.82  
1.51  
Total  
63.33  
2.18  
137.75  
4.43  
Argentina  
Measured  
2.14  
2.55  
5.45  
0.18  
Indicated  
31.31  
1.69  
52.91  
1.70  
Inferred  
7.49  
2.98  
22.34  
0.72  
Total  
40.94  
1.97  
80.70  
2.59  
Brazil  
Measured  
4.98  
6.25  
31.14  
1.00



Indicated

10.36

4.91

50.89

1.64

Inferred

48.40

5.30

256.36

8.24

Total

63.74

5.31

338.39

10.88

Colombia

Measured

15.68

0.85

13.30

0.43

Indicated

34.36

0.79

27.21

0.87

Inferred

1,025.23

0.85

873.63

28.09

Total

1,075.27

0.85

914.14

29.39

United States

Measured

112.75

0.72

81.08

2.61

Indicated

126.54

0.66

83.21

2.68

Inferred

84.56

0.64

53.87

1.73  
Total  
323.85  
0.67  
218.16  
7.01  
Total  
Measured  
189.54  
3.16  
599.05  
19.26  
Indicated  
752.46  
2.59  
1,951.16  
62.73  
Inferred  
1,517.27  
1.45  
2,193.45  
70.52  
Total  
2,459.27  
1.93  
4,743.66  
152.51

*Rounding of figures may result in computational discrepancies.*

MINERAL RESOURCE BY COUNTRY  
EXCLUSIVE OF ORE RESERVE (ATTRIBUTABLE)

{  
7

GROUP OVERVIEW

Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 as at 31 December 2012  
 Category  
 Tonnes  
 Moz  
 South Africa  
 Proved  
 148.71  
 0.66  
 98.04  
 3.15  
 Probable  
 728.45  
 1.21  
 883.59  
 28.41  
 Total  
 877.16  
 1.12  
 981.63  
 31.56  
 Democratic Republic of the Congo  
 Proved  
 1.59  
 3.26  
 5.20  
 0.17  
 Probable  
 35.90  
 4.12  
 147.84  
 4.75  
 Total  
 37.49  
 4.08  
 153.04  
 4.92  
 Ghana  
 Proved  
 40.88  
 3.42  
 139.66  
 4.49  
 Probable  
 52.77  
 3.67  
 193.84

6.23  
Total  
93.65  
3.56  
333.50  
10.72  
Guinea  
Proved  
36.59  
0.63  
22.92  
0.74  
Probable  
67.60  
0.67  
45.56  
1.46  
Total  
104.19  
0.66  
68.48  
2.20  
Mali  
Proved  
2.26  
1.30  
2.93  
0.09  
Probable  
36.61  
1.81  
66.32  
2.13  
Total  
38.87  
1.78  
69.25  
2.23  
Namibia  
Proved  
—  
—  
—  
—  
Probable  
51.80  
1.26  
65.29  
2.10  
Total  
51.80

1.26  
65.29  
2.10  
Tanzania  
Proved  
—  
—  
—  
—  
Probable  
65.06  
2.59  
168.63  
5.42  
Total  
65.06  
2.59  
168.63  
5.42  
Australia  
Proved  
33.13  
1.76  
58.20  
1.87  
Probable  
26.82  
2.37  
63.55  
2.04  
Total  
59.95  
2.03  
121.75  
3.91  
Argentina  
Proved  
10.44  
1.29  
13.49  
0.43  
Probable  
10.90  
4.56  
49.71  
1.60  
Total  
21.34  
2.96  
63.20  
2.03

Brazil  
 Proved  
 9.29  
 4.47  
 41.51  
 1.33  
 Probable  
 12.48  
 4.39  
 54.74  
 1.76  
 Total  
 21.77  
 4.42  
 96.25  
 3.09  
 United States  
 Proved  
 154.81  
 0.81  
 126.16  
 4.06  
 Probable  
 82.35  
 0.69  
 56.83  
 1.83  
 Total  
 237.16  
 0.77  
 182.99  
 5.88  
 Total  
 Proved  
 437.72  
 1.16  
 508.11  
 16.34  
 Probable  
 1,170.74  
 1.53  
 1,795.90  
 57.74  
 Total  
 1,608.46  
 1.43  
 2,304.01  
 74.08

*Rounding of figures may result in computational discrepancies.*

ORE RESERVE BY COUNTRY  
 (ATTRIBUTABLE)

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**8**  
**}**

*Australia: Sunrise Dam*

{  
**9**

GROUP OVERVIEW



RECONCILIATION OF MINERAL RESOURCE

(AU CONTENT Moz)

as at 31 December 2012

Previous

year

Depletion

Gold

price

Cost Exploration

Metho-

dology

Other

Acquisition/

disposal

South Africa Region

Great Noligwa

3.860

(0.164)

-

(2.267)

(0.393)

-

-

-

Kopanang

10.269

(0.303)

-

-

(0.718)

-

-

-

Moab Khotsong

19.946

(0.245)

0.018

(0.078)

1.260

-

0.013

-

Vaal River Surface

4.902

(0.178)

-

-

(0.032)

0.058

0.006

-

Mine Waste Solutions

—  
(0.071)

—  
—  
—  
—  
(0.003)

2.657  
Mponeng  
49.519  
(0.499)  
1.621

—  
0.175

—  
—  
—  
Savuka  
3.021  
(0.060)

—  
(0.023)  
0.015  
0.025

—  
—  
TauTona  
4.547  
(0.293)

—  
(0.098)  
0.329  
0.173  
0.035

—  
West Wits Surface  
1.565  
(0.009)

—  
—  
—  
0.016  
(0.001)

—  
Total  
97.631  
(1.821)  
1.639  
(2.466)  
0.636

0.271

0.050

2.657

Continental Africa Region

Kibali

8.382

—

—

—

(0.048)

—

0.170

—

Mongbwalu

2.057

—

—

—

—

—

—

—

Iduapriem

6.585

(0.220)

0.648

(0.128)

—

(0.301)

0.033

—

Obuasi

31.858

(0.317)

—

—

0.038

(0.004)

(1.751)

—

Siguiri

5.183

(0.239)

0.883

(0.668)

0.088

(0.115)

0.039

—

Morila

0.395

(0.073)  
—  
—  
—  
—  
(0.051)  
—  
Sadiola  
4.397  
(0.118)  
0.110  
(0.251)  
0.014  
(0.333)  
(0.034)  
—  
Yatela  
0.120  
(0.035)  
0.004  
—  
—  
—  
—  
—  
Navachab  
4.952  
(0.117)  
0.569  
0.507  
0.013  
0.092  
(1.608)  
—  
Geita  
12.569  
(0.609)  
1.291  
(1.255)  
0.218  
0.105  
(0.038)  
—  
Total  
76.499  
(1.726)  
3.505  
(1.794)  
0.323  
(0.556)  
(3.240)

–  
 Australasia Region  
 Sunrise Dam  
 2.966  
 (0.236)  
 –  
 –  
 0.664  
 (0.459)  
 (0.115)  
 –  
 Tropicana  
 4.486  
 –  
 –  
 –  
 0.056  
 0.982  
 –  
 –  
 Total  
 7.452  
 (0.236)  
 –  
 –  
 0.720  
 0.523  
 (0.115)  
 –  
 Americas Region  
 Cerro Vanguardia  
 4.407  
 (0.251)  
 –  
 –  
 0.378  
 0.183  
 –  
 –  
 AGA Mineração  
 11.462  
 (0.431)  
 0.086  
 –  
 0.487  
 0.137  
 0.053  
 –  
 Serra Grande  
 1.186  
 (0.138)

-  
 -  
 0.502  
 0.052  
 -  
 1.186  
 Gramalote  
 1.989  
 -  
 0.397  
 -  
 0.166  
 -  
 -  
 -  
 La Colosa  
 16.268  
 -  
 -  
 -  
 10.570  
 -  
 -  
 -  
 CC&V  
 13.982  
 (0.498)  
 0.835  
 (1.044)  
 0.020  
 -  
 (0.398)  
 -  
 Total  
 49.295  
 (1.318)  
 1.318  
 (1.044)  
 12.123  
 0.373  
 (0.345)  
 1.186  
 Grand total  
 230.876  
 (5.102)  
 6.462  
 (5.304)  
 13.802  
 0.612  
 (3.650)  
 3.843

*Rounding of figures may result in computational discrepancies.*

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**10**

}

Current  
year  
Net  
diff  
%

Comments

1.036

(2.82)

(73)

Decrease mainly due to a footprint reduction resulting from increased costs for both Vaal Reef and Crystalkop Reef.

9.248

(1.02)

(10)

Decrease mainly due to depletion and exploration – new sampling data received.

20.914

0.97

5

Increase due to new sampling data received from Middle and Lower Mine offset by a decrease due to new exploration information from Top Mine.

4.756

(0.15)

(3)

Changes were mainly due to depletion.

2.584

2.58

100

Newly acquired Mineral Resource with minor depletion.

50.817

1.30

3

Additional upgraded Carbon Leader Reef south of Savuka boundary offset by depletion and lower sampling data for the Ventersdorp Contact Reef.

2.978

(0.04)

(1)

Depletion was offset by small year-on-year increases.

4.693

0.15

3

Exploration and methodology offset by depletion and increased cost.

1.571

0.01

–

Additions offset depletion.

98.597

0.97

1

8.505

0.12

1



Increase due to additional infill and advanced grade control drilling programmes and identification of additional ore tonnages.

2.057

–

–

No updates to Mineral Resource since previous year.

6.619

0.03

1

Increase due to higher gold price was offset by depletion and model changes.

29.825

(2.03)

(6)

Decrease mainly due to the correction of the previous year's depletion volumes and mining.

5.171

(0.01)

–

Increase in gold price was largely offset by the increase in costs and model changes.

0.270

(0.12)

(31)

Decrease due to adjustments to the tailings storage facility estimates based on poor reconciliations and depletion.

3.786

(0.61)

(14)

Decrease due to model changes after recent infill and advanced grade control drilling programmes.

0.089

(0.03)

(26)

Changes were mainly due to depletion.

4.408

(0.54)

(11)

Decrease due to a reduction in interpreted vein volumes in the foot wall of the deposit and the minimising of grade spread during estimation in waste areas.

12.282

(0.29)

(2)

Decrease due to increase in cut-off grade for underground and increase in cost in the satellite open pit projects.

73.012

(3.49)

(5)

2.819

(0.15)

(5)

Exploration success offset by depletion and changes to Mineral Resource estimation approach.

5.524

1.04

23

Increase due to reporting Havana within open pit optimisation shell rather than as an underground Mineral Resource.

8.343

0.89

12

4.717

0.31

7

Increase due to exploration mainly for open pit low grade Mineral Resource.

11.794

0.33

3

Increase due to exploration at Córrego do Sítio as well as model changes at Cuiabá and Lamego.

2.787

1.60

135

Increases by the acquisition of 50% share plus some exploration discoveries.

2.552

0.56

28

Increase due to gold price and exploration adding Inferred Mineral Resource at Monjas West.

26.838

10.57

65

Increase mainly due to gold price and exploration in the central, north and south of La Colosa.

12.897

(1.09)

(8)

Increase due to gold price and exploration was offset by adjustments to the metallurgical model, increased cost and depletion.

61.586

12.29

25

241.538

10.66

5

{

**11**

GROUP OVERVIEW

RECONCILIATION OF ORE RESERVE

(AU CONTENT Moz)

as at 31 December 2012

Previous  
year

Depletion

Other

Model

change

Change in  
economics

New ounces  
from

projects

Scope

change

South Africa Region

Great Noligwa

1.124

(0.073)

(0.028)

–

–

–

(0.630)

Kopanang

2.796

(0.191)

–

–

–

–

(1.212)

Moab Khotsong

6.999

(0.185)

–

(0.167)

–

–

(0.040)

Vaal River Surface

4.777

(0.178)

(0.031)

0.055

0.025

–

–

Mine Waste Solutions

–

(0.071)

(0.009)

—

—

—

—

Mponeng

14.024

(0.421)

—

0.759

—

—

(0.555)

Savuka

0.600

(0.040)

—

(0.017)

—

—

—

TauTona

1.918

(0.205)

—

(0.064)

—

—

—

West Wits Surface

0.188

(0.009)

—

0.008

(0.015)

—

—

Total

32.427

(1.372)

(0.068)

0.573

0.010

—

(2.437)

Continental Africa Region

Kibali

4.523

—

—

0.397

-

-

-

Iduapriem

2.554

(0.225)

-

(0.269)

0.129

-

0.016

Obuasi

9.368

(0.457)

0.092

(0.450)

(0.037)

-

-

Siguiri

2.311

(0.205)

0.012

0.056

0.005

-

0.023

Morila

0.129

(0.073)

-

-

-

-

-

Sadiola

2.298

(0.137)

0.103

0.025

(0.106)

0.028

(0.073)

Yatela

0.053

(0.021)

-

-

-

-

-  
Navachab  
2.050  
(0.117)  
-  
(0.003)  
-  
-  
0.169  
Geita  
4.730  
(0.548)  
0.141  
(0.189)  
0.625  
-  
0.663  
Total  
28.016  
(1.782)  
0.348  
(0.433)  
0.617  
0.028  
0.798  
Australasia Region  
Sunrise Dam  
1.525  
(0.245)  
-  
(0.127)  
0.012  
-  
0.018  
Tropicana  
2.739  
-  
(0.009)  
-  
-  
-  
-  
Total  
4.265  
(0.245)  
(0.009)  
(0.127)  
0.012  
-  
0.018  
Americas Region

Cerro Vanguardia

2.217  
(0.263)

–

0.056  
(0.046)

–

0.069

AGA Mineração

2.046  
(0.390)

0.328

0.400

(0.080)

–

0.027

Serra Grande

0.375  
(0.140)

–

0.156

–

–

–

CC&V

6.255  
(0.544)

(0.208)

(0.046)

0.383

–

0.043

Total

10.892  
(1.337)

0.120

0.565

0.256

–

0.139

Grand total

75.599  
(4.735)

0.391

0.579

0.895

0.028

(1.482)

*Rounding of figures may result in computational discrepancies.*

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**12**

}



Acquisition/ disposal	Current year	Net diff	%	Comments
–	0.393	(0.73)	(65)	Decrease mainly due to a footprint reduction resulting from increased costs for both Vaal Reef and Crystalkop Reef.
–	1.393	(1.40)	(50)	Significant decrease in the Ore Reserve mainly due to depletion, exploration and downgrade to Inferred Mineral Resource.
–	6.606	(0.39)	(6)	Decrease due to mine design – unmineable blocks of ground in the Top Mine being removed from the Ore Reserve.
–	4.649	(0.13)	(3)	Changes were mainly due to depletion.
–	2.427	2.347	2.35	100
–	13.807	(0.22)	(2)	Decrease due to changes in mine design to include strike stabilising blocks of ground offset by an increase in grade on the Ventersdorp Contact Reef on the western side of the mine.
–	0.544	(0.06)	(9)	Decrease due to re-interpretation of geological structure as well as depletion.
–	1.649	(0.27)		

(14)  
 Decrease mainly due to design changes and depletion.  
 –  
 0.171  
 (0.02)  
 (9)  
 Additions offset depletion.  
 2.427  
 31.560  
 (0.87)  
 (3)  
 –  
 4.921  
 0.40  
 9  
 Increase due to increased drilling for open pit and underground with a resultant upgrading of Mineral Resource.  
 –  
 2.206  
 (0.35)  
 (14)  
 Increase in gold price was offset by depletion and Mineral Resource re-categorisation.  
 –  
 8.517  
 (0.85)  
 (9)  
 Decrease due to depletion, changes in design and Mineral Resource re-categorisation.  
 –  
 2.202  
 (0.11)  
 (5)  
 Increase in gold price and model changes was offset by depletion.  
 –  
 0.056  
 (0.07)  
 (56)  
 Changes were mainly due to depletion.  
 –  
 2.138  
 (0.16)  
 (7)  
 Decrease due to model changes in oxide Mineral Resource offset by depletion and oxide processing complexities.  
 –  
 0.032  
 (0.02)  
 (40)  
 Changes were mainly due to depletion.  
 –

2.099

0.05

2

Increase due to inclusion of satellite pits.

–

5.421

0.69

15

Increase due to higher gold price, lower costs and design improvements in active pits.

–

27.592

(0.42)

(2)

–

1.184

(0.34)

(22)

Decrease due to depletion of the open pit, changes in modelling and depletion in the underground Ore Reserve.

–

2.731

(0.01)

–

Minor changes.

–

3.914

(0.35)

(8)

–

2.032

(0.18)

(8)

Decrease due to depletion and higher operating costs was offset by additions of new Mineral Resource.

–

2.330

0.28

14

Increase due to exploration and better delineation of Córrego do Sítio and Cuiabá deposits.

0.373

0.764

0.39

104

Increases by the acquisition of 50% share plus model changes offset by depletion.

–

5.883

(0.37)

(6)

Minor adjustments due to metallurgical recovery changes and gold price.

0.373  
11.009  
0.12  
1  
2.800  
74.076  
(1.52)  
(2)  
{  
**13**

GROUP OVERVIEW

SOUTH AFRICA

}

*South Africa: Kopanang*

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**14**

}

REGIONAL OVERVIEW

AngloGold Ashanti's operations in South Africa have a total Inclusive Mineral Resource of 98.60Moz and an Ore Reserve of 31.56Moz.

The South African operations produced 1.2Moz of gold in 2012, or 31% of group production, and 1.21Mlb of uranium oxide.

Inclusive Mineral Resource

Tonnes

million

Grade

g/t

Contained gold

as at 31 December 2012

Category

Tonnes

Moz

South Africa

Measured

183.97

2.33\*

428.52

13.78

Indicated

964.52

2.16

2,080.80

66.90

Inferred

53.34

10.45

557.39

17.92

Total

1,201.83

2.55

3,066.71

98.60

Ore Reserve

Tonnes

million

Grade

g/t

Contained gold

as at 31 December 2012

Category

Tonnes

Moz

South Africa

Proved

148.71

0.66\*

98.04

3.15  
 Probable  
 728.45  
 1.21  
 883.59  
 28.41  
 Total  
 877.16  
 1.12  
 981.63  
 31.56

*\*The grade decreased with the acquisition and reporting of Mine Waste Solutions.*

This section covers AngloGold Ashanti's six deep level mines and surface operations in the South Africa Region.

Contribution to group production (%)

South Africa

31

Rest of AngloGold Ashanti

69

Mponeng

33

TauTona

16

Surface operations 14

Kopanang

14

Moab Khotsong

13

Great Noligwa

7

Savuka

3

Contribution to production by mine

(%)

{

**15**

**SOUTH AFRICA**

COUNTRY OVERVIEW

AngloGold Ashanti's South Africa operations comprise six deep-level underground mines and surface processing operations. These operations are all located within the Witwatersrand Basin and are centred around two mining districts, the Vaal River and West Wits areas.

- The Vaal River operations consist of the Great Nologwa, Kopanang and Moab Khotsong mines and the Vaal River Surface processing operation. As of July 2012, Mine Waste Solutions also forms part of these operations.

- The West Wits operations consist of the Mponeng, Savuka and TauTona mines and the West Wits Surface processing operation.

The Vaal River operations are situated near the town of Klerksdorp. The primary reefs mined by these operations are the Vaal Reef (VR), the Ventersdorp Contact Reef (VCR) and the secondary Crystalkop Reef (C Reef).

The West Wits operations are situated near the town of Carletonville. The primary reefs mined by these operations are the Carbon

Leader Reef (CLR) and the VCR.

All six underground operations are 100% owned by AngloGold Ashanti. In addition, the Vaal River Surface, Mine Waste Solutions and

West Wits Surface operations re-work the waste rock dumps and tailings dams which resulted from the mining and processing of the primary and secondary reef horizons.

SOUTH AFRICA

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**16**

}



## MINERAL RESOURCE ESTIMATION

The sampling data used in Mineral Resource estimation includes underground chip samples, underground drill holes and surface drill holes. All sample locations are reported as a composite over a mineralised width, resulting in a single channel width (cm) and metal accumulation (cm.g/t) value. AngloGold Ashanti makes use of a Bayesian geostatistical approach, where in the absence of dense sampling data, gold estimations are based on a combination of the observed data and external knowledge relating to the data. A Bayesian geostatistical approach asserts that the area to be evaluated forms part of a larger continuous entity, to which the observed data belongs. Mixed support co-kriging is used in the estimation of the Mineral Resource. It is a technique that enables the use of data of mixed support, allowing both drill hole and underground sampling data to be used together. Estimation is performed into large block sizes >210m x 210m, which fully capture the within block variance, allowing the co-kriging of data of different support sizes over long ranges. Estimation is done per geological homogeneous zone, in log space because of the highly skewed gold distribution. The final gold estimates are then calculated by back transforming the estimates, using log normal four parameter distribution models.

Simple kriging is used for grade control and Measured Mineral Resource at a 30m x 30m block size and constrained by the weight of the mean value.

The Mineral Resource is initially reported as inclusive of the Ore Reserve as it forms the basis for the Ore Reserve conversion process. Mineral Resource cut-off grades are computed for each operation, by reef horizon. These cut-off grades incorporate a profit margin that is relevant to the business plan. Grade tonnage curves are produced for each operation, which show the potential of the deposit at different cut-off grades.

## ORE RESERVE ESTIMATION

Mine design delineates the mining areas and supporting development for each mining level and section, usually by extrapolating the existing mining design. The *in-situ* Mineral Resource is scheduled monthly for the full Life of Mine (LOM) plan. The value estimates for these schedules are derived from the Mineral Resource model.

Modifying factors are applied to the *in-situ* Mineral Resource to arrive at an Ore Reserve. These factors comprise a dilution factor to accommodate the difference between the milling width and the stoping width, as well as the Mine Call Factor (MCF).

Development sampling results – January to December 2012

Development values represent actual results of sampling, no allowances having been made for adjustments necessary in estimating the Ore Reserve.

Statistics are shown in

Advanced

Sampled gold

Sampled uranium

metric units

South Africa

metres

(total)\*  
 Sampled  
 metres  
 Avg. channel  
 width (cm)  
 Avg. g/t  
 Avg. cm.g/t  
 Avg. kg/t  
 Avg.  
 cm.kg/t  
 Vaal River  
 Great Nologwa  
 Crystalkop Reef  
 776  
 322  
 17.2  
 154.24  
 2,653  
 4.14  
 72.46  
 Vaal Reef  
 1,479  
 84  
 152.2  
 3.12  
 475  
 0.34  
 45.40  
 Kopanang Mine  
 Vaal Reef  
 18,451  
 2,648  
 21.7  
 53.13  
 1,153  
 2.84  
 61.43  
 Moab Khotsong Mine  
 Vaal Reef  
 15,001  
 1,328  
 120.9  
 34.24  
 4,140  
 0.97  
 123.35  
 West Wits  
 Mponeng Mine  
 Ventersdorp Contact Reef  
 14,586  
 1,566

68.2

27.29

1,861

—

—

TauTona Mine

Carbon Leader Reef

7,667

548

20.0

157.25

3,145

1.60

31.61

*\* This includes both on-reef and off-reef development*

{

**17**

SOUTH AFRICA

## LOCATION

Great Nologwa is located about 15km southeast of the town of Orkney, in the southern part of the Klerksdorp Goldfield. The Great

Nologwa mining lease area is about 49km<sup>2</sup> and is constrained to the north by Aurora mine, to the east by Buffelsfontein mine, to the south by Moab Khotsoeng and the Jersey and De Hoek faults (downward displacement of 1,000m and 900m respectively), and to the west by Kopanang mine.

The economic horizons are exploited between 1,500m and 2,600m below surface through a mining method that gains access to the gold-bearing reefs with foot wall haulages and return airway development. Cross-cuts are developed every 180m from the haulages to the reef horizon. Raises are then developed on-reef to the level above and the reef is mined out on strike.

## GEOLOGY

The Vaal Reef (VR) is the principal economic horizon at Great Nologwa and the Crystalkop Reef (C Reef) is the secondary economic horizon. Both reefs are part of the Witwatersrand Supergroup and are stratigraphically located near the middle of the Central Rand

Group. The C Reef forms the top of the Johannesburg Subgroup, while the VR is about 265m below the C Reef. The VR unit can reach a maximum thickness of 2m and consists of a thin basal conglomerate (the C facies) and a thicker sequence of upper conglomerates (the A facies). These two sedimentary facies are separated by the B facies, which is a layer of barren

orthoquartzites. The A facies is the principal economic horizon within the VR, but remnants of the C facies are sporadically preserved below the A facies. High gold values in the VR are often located at the base of this unit and are associated with high uranium values

as well as the presence of carbon. Uranium is a very important by-product of Great Nologwa.

## GREAT NOLIGWA

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

18

}

The C Reef has been mined on a limited scale in the central part of Great Noligwa, where a high-grade, north-south orientated sedimentary channel, containing two economic horizons, has been exposed. To the east and the west of this channel the C Reef is poorly developed with relatively small areas of economic interest. As in the case of VR, high uranium values are also often associated with high gold values and the presence of a 5mm to 2cm thick carbon seam at the base of the conglomerate. To the north of the mine the C Reef sub-crops up against the Gold Estates Conglomerate Formation and in the extreme south of the mine the C Reef has been eliminated by a deep Kimberley Erosion Channel and the Jersey fault.

#### PROJECTS

##### Fish Project (Zuiping A Fault loss)

Drilling is on-going within the Zuiping A Fault zone containing remnant blocks of VR. This ground is situated in the eastern part of the mining lease area and is referred to as the Fish Block. The reef blocks are situated in a high-grade zone within the Zuiping A Fault loss area. A total of 2,500m of diamond drilling (DD) is planned for 2013 that will enable the geosciences department to finalise the reef interruption plan, to increase the geological confidence in the proposed mining area and to test for upside potential.

##### Zuiping C Fault loss

Drilling into the Zuiping C Fault loss from the 58 FW haulage is underway using one pneumatic drilling machine with the aim to locate remnant blocks within the Fault loss. The first drill hole is currently being drilled. An additional 1,000m of DD is planned for 2013 within the Zuiping C Fault.

##### C Reef

Drilling is currently in progress with two pneumatic drilling machines with the aim to intersect C Reef and to investigate the prospect of upgrading some of the low-grade areas to medium-grade areas. The lack of drilling within the lower facies results in an overall low geological confidence that increases the probability that channels of higher-grade reef may exist within the lower facies.

An additional 1,000m will be drilled in this area to improve the geological structure and facies models during 2013.

##### ATIC Project

A block of ground was identified between 61 and 68 Level, where the ATIC Project will focus on improving the mine design and planning, with a view towards increasing productivity, improving gold recovery, reducing development costs and improving safety.

#### MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other      Comments

Great Noligwa

Measured

5 x 5

–

–

– X

Chip sampling

Indicated

100 x 100

X –

–

–

Underground drilling

Inferred

1,000 x 1,000

X –

–

–

Surface drilling

Grade/Ore control

–

–

– X

See Measured category

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Great Noligwa

Category

Tonnes

Moz

Vaal Reef

Measured

1.49

19.24

28.69

0.92

Indicated

0.19

17.83

3.35

0.11

Inferred

0.01

20.13

0.17

0.01

Great Noligwa

Total

1.69

19.09

32.21

1.04

{

**19**

SOUTH AFRICA

**GREAT NOLIGWA continued**

Exclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Great Noligwa

Category

Tonnes

Moz

Measured

0.37

19.74

7.32

0.24

Indicated

0.05

20.00

1.05

0.03

Inferred

0.00

20.84

0.06

0.00

Great Noligwa

Total

0.42

19.78

8.43

0.27

The significant reduction in these figures is due to the scope change, whereby the footprint of the Mineral Resource was reduced due

to the resizing of the operation.

There is no Exclusive Mineral Resource for the C Reef.

Mineral Resource below infrastructure

There is no Mineral Resource below infrastructure.

**ORE RESERVE**

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Great Noligwa

Category

Tonnes

Moz



Vaal Reef

Proved

1.21

8.77

10.60

0.34

Probable

0.19

8.62

1.62

0.05

Great Noligwa

Total

1.40

8.75

12.22

0.39

Great Noligwa

Mineral Resource reconciliation: 2011 to 2012

3.86

-0.16

0.00

-2.27

-0.39

0.00

0.00

0.00

1.04

Ounces (millions)

4.0

3.5

3.0

2.5

2.0

1.5

1.0

0.5

2011

Deple-

tion

Gold

price

Cost

Explo-

ration

Metho-

dology

Other

Acquisition/

Disposal

2012

Great Noligwa

Ore Reserve reconciliation: 2011 to 2012

1.12

-0.07

0.00

0.00

0.00

-0.63

-0.03

0.00

0.39

Ounces (millions)

1.2

1.0

0.8

0.6

0.4

0.2

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**20**

}

Ore Reserve modifying factors

as at

31 December 2012

Great Noligwa

Gold

price

\$/oz

\$/ZAR

exchange

rate

Cut-off

value

g/t Au

Cut-off

value

cm.g/t Au

Stoping

width

cm

Dilution

%

MCF

%

MetRF

%

Vaal Reef

1,300

6.94

8.75

1,600

179.8

52.5

59.4

95.5

Inferred Mineral Resource in business plan

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Great Noligwa

Tonnes

Moz

Comment

Vaal Reef

0.01

20.13

0.17

0.01

Mineral Resource included in business plan but is

not included in Ore Reserve

Total

0.01

20.13

0.17

0.01

The C Reef does not form part of the business plan. The VR Inferred Mineral Resource is scattered throughout the mine in the form of

blocks of ground left by previous mining as well as blocks of ground within the major fault loss areas.

Ore Reserve below infrastructure

There is no Ore Reserve below infrastructure.

#### COMPETENT PERSONS

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Francois Vermeulen

GSSA

966 939

7 years

Ore Reserve

Andre Kruger

PLATO

PMS 0114

35 years

0.2

0.4

0.6

0.8

1.0

1.2

1.4

1.6

1.8

0

2

4

8

6

10

12

14

16

18

20

22

24

Great Noligwa

Grade tonnage curve – Underground (metric)

Tonnes above  
cut-off (millions)

Average

grade

above

cut-off (g/t)

Cut-off grade (g/t)

32

30

28

26

24

22

20

18

16

Tonnes above cut-off

Ave grade above cut-off

{

**21**

SOUTH AFRICA

## LOCATION

Kopanang is one of three AngloGold Ashanti mines located in the Vaal River district, the other two being Great Nologwa and Moab

Khotsong. Kopanang is located in the Free State province, approximately 170km southwest of Johannesburg and 10km southeast

of the town of Orkney. The current mining lease encompasses an area of 35km<sup>2</sup> and is bound by Great Nologwa to the east, Pamodzi

Gold's Number Three Shaft to the north and the Jersey fault (1,000m displacement) to the south. The natural extension of the mine

is to the southwest.

## GEOLOGY

Kopanang is situated in a structurally complex area of the Witwatersrand Basin, which has been subjected to numerous tectonic

events. Two tabular gold and uranium mineralised reef horizons, the Vaal Reef (VR) and Crystalkop Reef (C Reef), have been mined

historically at Kopanang. Currently only the VR is being mined, with limited C Reef mining planned during the Life of Mine (LOM).

The C Reef is situated stratigraphically about 250m above the VR and accessible through the Vaal Reef infrastructure. These

conglomerate units dip at an average of 21° towards the south and occur in a 2,100m thick sedimentary sequence comprising the

Central Rand Group.

The gold-bearing reef horizons are accessed via a twin shaft system which descends to a maximum depth of 2,334m, while the main

working levels are situated between 1,300m and 2,024m below surface. Mining is challenged by the presence of an assortment of

steep (85°– 50°) north dipping and younger low angle (50°–15°) south dipping faults. The interplay of these main fault regimes, along

with abundant pre- and post-dating dykes, makes for a complex and geologically challenging deposit.

A geological model is employed to delineate variations (either lateral or vertical) in characteristics of the VR. The current geological

model thus subdivides the VR at Kopanang into homogeneous zones based on sedimentological and grade parameters.

Currently

a study is underway to help improve the identification of the various geological homogeneous zones by incorporating alteration

mineralogy.

## KOPANANG

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

22

}

## EXPLORATION

Exploration targets are located within the current mining lease and the adjacent areas, which form a natural extension to the current mining front. A surface drilling programme is under way to explore for VR on Gencor 1E and adjacent leases (De Pont Landing, Witkop and Pilgrims Estate). Results obtained are subject to continuous review, particularly to the west of Gencor 1E, where there is a general drop in gold values to potentially uneconomic concentrations. A prospecting right has been granted for Witkop to the north of Gencor 1E and surface exploration drilling has been planned to begin post 2013. Surface drilling in Gencor 1E for the VR above current infrastructure has been completed. Values returned from the KDPL1 surface hole drilled on the De Pont Landing area were disappointing at 165cm.g/t. Long Inclined Borehole (LIB) drilling in the Gencor 1E area, above infrastructure, is ongoing, with the aim of increasing the confidence in the value prediction and structural interpretation in the area. Exploration on the VR in the Shaft Fault area has continued during 2012, targeting prospective blocks within the Shaft Steep and PK17 Fault. The drilling in the area was largely completed during 2012 and 0.2Moz have been added since 2009. Another area being explored is the area below 68 Level that falls beneath current mine infrastructure. These target blocks consist of VR Inferred and Indicated Mineral Resource and projected blocks towards the Jersey fault. Mineral Resource confidence has been increased through this drilling. Exploration on the Ventersdorp Contact Reef (VCR) started during 2011 through surface drilling operations. This reef is situated approximately 500m stratigraphically above the VR on Kopanang. The planned surface drilling has been completed as per the schedule during 2012 for delineation of the payable VCR Channels and increased structural confidence. These ounces will not be published until proved potentially economically viable. Hole KGD8 was drilled to test the distal extension of the higher grade Polymictic Channel Facies. The hole intersected the targeted facies and a value of 3,633cm.g/t was returned over a channel width of 282cm. Two exploration holes from underground and an additional surface hole have been planned to test the lateral and distal extent of the economic VCR facies.

## PROJECTS

The Kopanang 'Above Infrastructure Economic Study' has two reef horizons to target: The Vaal Reef located above the existing infrastructure and the Ventersdorp Contact Reef (VCR) located approximately 500m above the Vaal Reef. For both reef horizons the on-lease portions will have to be targeted with new infrastructure and associated development. The above 42 Level VCR area (on lease) considered for the study was structurally discounted by 30%. The Mineral Resource for the area is 0.6Moz at a value of 1,104cm.g/t. The geological model boundaries are broadly interpolated from surface drill holes. 21 drill-hole intersections were used for value estimation. The potential economic portion of the VCR is within the Polymictic Channel Facies and Oligomictic Basal Conglomerate

Facies. Due to the nature of the deposit, global estimates have been calculated and classified as an Inferred Mineral Resource.

The planned VCR drilling for 2012 has been completed. Holes KGD2, 3, 5, 6, 7, 8, 9 and KDPL2 intersected VCR. In holes KGD1 and 4, and KDPL1 and 3, the VCR was faulted out. The acceptable and representative intersection values have been incorporated into the estimation model for the study.

The VR above 42 Level underground exposures and surface or underground drill locations are too widely spaced to confirm geological and grade continuity but are spaced close enough for continuity to be assumed with a reasonable level of confidence.

The nature, quality, amount and distribution of data are such as to allow the Competent Person to confidently interpret the

geological framework and to assume geological continuity of mineralisation. The Indicated Mineral Resource for the area is 1.3Moz

at a value of 863cm.g/t.

{

**23**

SOUTH AFRICA



MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Kopanang

Measured

5 x 5

-

-

- X

Chip sampling

Indicated

100 x 100

X -

-

-

Underground drilling

Inferred

1,000 x 1,000

X -

-

-

Surface drilling

Grade/Ore control

-

-

- X

See Measured category

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Kopanang

Category

Tonnes Moz

Crystalkop Reef

Measured

0.07

11.92

0.86

0.03  
Indicated  
0.41  
12.87  
5.34  
0.17  
Inferred  
0.39  
13.46  
5.29  
0.17  
Total  
0.87  
13.06  
11.49  
0.37  
Vaal Reef Edom  
Measured  
0.19  
8.21  
1.52  
0.05  
Indicated  
0.87  
9.56  
8.29  
0.27  
Inferred  
0.24  
12.94  
3.06  
0.10  
Total  
1.30  
9.99  
12.87  
0.41  
Vaal Reef Base  
Measured  
3.82  
14.69  
56.14  
1.81  
Indicated  
11.23  
13.29  
149.25  
4.80  
Inferred  
1.48  
12.33

18.23  
 0.59  
 Total  
 16.53  
 13.53  
 223.62  
 7.19  
 Vaal Reef Above Infrastructure  
 Measured  
 0.00  
 11.06  
 0.01  
 0.00  
 Indicated  
 4.78  
 8.30  
 39.64  
 1.27  
 Inferred  
 0.00  
 6.32  
 0.00  
 0.00  
 Total  
 4.78  
 8.30  
 39.65  
 1.27  
 Kopanang  
 Total  
 23.48  
 12.25  
 287.64  
 9.25  
 Exclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Kopanang  
 Category  
 Tonnes Moz  
 Measured  
 3.49  
 13.59  
 47.43  
 1.52  
 Indicated  
 13.87

10.36

143.80

4.62

Inferred

1.98

12.52

24.74

0.80

Kopanang

Total

19.34

11.17

215.97

6.94

Approximately 55% of the published Exclusive Mineral Resource is expected to be taken up in safety pillars, remnant blocks of ground,

areas beyond the window of opportunity and areas beyond infrastructure if mined.

**KOPANANG continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**24**

**}**

Mineral Resource below infrastructure  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Kopanang

Category

Tonnes Moz

Measured

0.03

14.99

0.51

0.02

Indicated

0.36

14.06

5.10

0.16

Inferred

0.31

16.32

4.99

0.16

Kopanang

Total

0.70

15.09

10.60

0.34

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Kopanang

Category

Tonnes Moz

Crystalkop Reef

Proved

0.01

5.07

0.03

0.00

Probable

0.20

6.12

1.25  
0.04  
Total  
0.21  
6.09  
1.28  
0.04  
Vaal Reef Edom  
Proved  
0.00  
10.67  
0.02  
0.00  
Probable  
0.05  
10.13  
0.46  
0.01  
Total  
0.05  
10.15  
0.48  
0.02  
Vaal Reef Base  
Proved  
0.86  
7.94  
6.85  
0.22  
Probable  
4.78  
7.27  
34.73  
1.12  
Total  
5.64  
7.37  
41.58  
1.34  
Kopanang  
Total  
5.90  
7.35  
43.34  
1.39  
Ore Reserve modifying factors  
as at  
31 December 2012  
Kopanang  
Gold  
price

\$/oz  
 \$/ZAR  
 exchange  
 rate

Cut-off  
 value

g/t Au  
 Cut-off  
 value

cm.g/t Au

Stoping  
 width

cm

Dilution

%

MCF

%

MetRF

%

Crystalkop Reef

1,300

6.94

11.54

1,200

104.0

55.7

65.6

96.4

Vaal Reef Base

1,300

6.94

11.54

1,200

104.0

54.7

65.6

96.4

Vaal Reef Edom

1,300

6.94

11.54

1,200

104.0

54.9

65.6

96.4

Kopanang

Mineral Resource reconciliation: 2011 to 2012

10.27

-0.30

0.00

0.00  
-0.72  
0.00  
0.00  
0.00  
9.25  
Ounces (millions)  
10.4  
10.2  
10.0  
9.8  
9.6  
9.4  
9.2  
9.0  
2011  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
Kopanang  
Ore Reserve reconciliation: 2011 to 2012  
2.80  
-0.19  
0.00  
0.00  
0.00  
-1.21  
0.00  
0.00  
1.39  
Ounces (millions)  
2.8  
2.6  
2.4  
2.0  
1.8  
1.6  
1.4  
1.2  
1.0  
2011



Depletion Model  
change  
Change  
in  
economics  
New oz  
from  
projects  
Scope  
change  
Other  
Aquisition/  
Disposal  
2012  
{  
**25**  
SOUTH AFRICA

Inferred Mineral Resource in business plan  
as at 31 December 2012

Tonnes  
million

Grade  
g/t

Contained gold

Kopanang

Tonnes Moz

Comment

Crystalkop Reef

0.11

9.81

1.08

0.03

*In-situ* content

Vaal Reef Base

0.08

7.84

0.66

0.02

*In-situ* content

Total

0.19

8.95

1.74

0.05

With appropriate caution, some Inferred Mineral Resource was included in the business plan during the optimisation process.

The VR Inferred Mineral Resource consists mainly of ground below infrastructure and areas within the highly faulted shaft fault system.

Exploration drilling is being conducted currently in an attempt to upgrade the Mineral Resource categorisation.

Ore Reserve below infrastructure

There was no Ore Reserve reported below infrastructure.

#### COMPETENT PERSONS

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Brenda Freese

GSSA

966 602

15 years

Ore Reserve

Willie Olivier

PLATO

MS 0136

22 years

KOPANANG **continued**

8  
10  
12  
14  
16  
18  
20  
22  
24  
0  
1  
2  
4  
3  
5  
6  
7  
8  
9  
10  
11  
Kopanang  
Grade tonnage curve – Underground (metric)  
Tonnes above  
cut-off (millions)  
Average  
grade  
above  
cut-off (g/t)  
Cut-off grade (g/t)  
19  
18  
17  
16  
15  
14  
13  
12  
11  
Tonnes above cut-off  
Ave grade above cut-off  
**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**  
**26**  
}

## LOCATION

Moab Khotsong is situated near the towns of Orkney and Klerksdorp, about 180km southwest of Johannesburg. The mining lease area lies to the south of Great Nologwa and Kopanang mines. Moab Khotsong is a relatively new mine and the first gold was produced in 2003.

The original plan was to exploit two distinct portions of the Moab Khotsong lease area, namely the Middle Mine (85 to 101 Level) and

the Lower Mine (101 to 118 Level). The Middle Mine exploits the Vaal Reef (VR) to depths between 2,600m and 3,054m below surface

on the down-thrown side of the De Hoek and Jersey fault complex. In 2008 the SV4 section of Great Nologwa was incorporated into

Moab Khotsong and this section is now termed the Top Mine.

The extension of Moab Khotsong is strategic because the life of the Vaal River operations could be increased significantly. The initial

development of Moab Khotsong was taken with a view that the new mine would be well positioned to exploit additional surrounding

ore blocks. The most important of these blocks will be the Zaaiplaats block, positioned to the southwest of the current Moab Khotsong

infrastructure and extending some 400m deeper than the existing mine. Mining is based on a scattered mining method with an

integrated backfill support system combined with bracket pillars.

## GEOLOGY

The Vaal Reef (VR) is the only economic horizon that is exploited at Moab Khotsong mine (refer to the description of the VR under

the Great Nologwa section on page 18). The Crystalkop Reef (C Reef) is preserved in the northern part of the mine where the reef has

been intersected by a number of drill holes. No development or stoping has taken place on the C Reef at Moab Khotsong to date.

The geology at Moab Khotsong is structurally complex with large fault-loss areas, but the main block at Zaaiplaats appears to be

comparatively undeformed and only faults of less than 30m displacement are expected. The geological setting is one of crustal

extension, bounded in the northwest and southeast by major south-dipping fault systems with north-dipping Zuiping faults sandwiched

between them. The De Hoek and Buffels East faults structurally bound the reef blocks of the Middle Mine to the northwest and

southeast respectively and the northern boundary is a north-dipping fault. The southern boundary fault of the Middle Mine is currently

not defined. Drilling is currently taking place in the Middle Mine area to obtain structural information below 101 Level. Due to the magnitude of the displacement across the De Hoek fault (more than 700m down to the south), geological

structures

encountered on the up-thrown side of the De Hoek fault cannot be locally projected to the down-thrown side and vice versa. It is only

once the development is through the De Hoek fault that geological mapping information has any bearing on the reef blocks, and a

considerable amount of exploration drilling is required to accurately delineate these blocks in this structurally complex area.

## MOAB KHOTSONG

{

27

SOUTH AFRICA

## EXPLORATION

Brownfields exploration is currently focused on improving confidence in the geological model. Six surface drilling machines and nineteen underground drilling machines were in operation during 2012. Hole MHH2, drilling on the Hormah Prospecting Rights area adjacent to the current Lower Mine Area C, is designed to intersect high-grade VR that will increase the Zaaiplaats Mineral Resource base and increase confidence in the peripheral reef block. Drilling is expected to continue through 2013. Two rigs (MGR6 and MGR8) targeted the periphery of the Zaaiplaats mining area, where multiple structures define the ore block margins. The deflection drilling programme at drill hole MGR8 was further delayed by technical issues and is now scheduled for completion during 2013. The long deflection of MGR6 is in progress to increase the structural confidence along the southern margin of Zaaiplaats and intersections of the VR are expected by the end of 2013. Two rigs (MMB6 and MMB7) targeted the core of the Zaaiplaats mining area, where dip changes could impact on the Ore Reserve. The nineteen underground drilling machines that were deployed to carry out capital drilling on the Top, Middle and Lower Mines are primarily used to obtain structural and grade information aimed at increasing the Mineral Resource base of Moab Khotsong. Four drilling machines are currently deployed in the Top Mine to obtain structural information on the VR blocks below 76 Level. Five drilling machines are currently deployed in the Middle Mine to obtain structural information on the Level 3 VR blocks below 101 Level whilst another four machines are located in the Middle Mine to obtain structural information on both the VR and C Reef horizons in the northern area of the mine. Seven drilling machines are currently deployed to carry out capital drilling associated with the Zaaiplaats project. The primary purpose of the current drilling is to provide required additional geological information for capital development and improve geological confidence.

Additional drilling is planned to improve confidence in both geological and grade distribution across the Moab Khotsong area.

## PROJECTS

The initial development of Moab Khotsong was taken with a view that the new mine would be well positioned to exploit additional surrounding ore blocks adjacent and contiguous to current mining areas. The most important of these blocks will be the Zaaiplaats block, positioned to the southwest of the current Moab Khotsong infrastructure and extending below the existing mine. The Moab Khotsong business plan is expected to produce some 3.0Moz of gold. Project Zaaiplaats will recover 5.4Moz of gold. Currently 0.5Moz attributed to the Phase 2 project forms part of the business plan. The project will extend Moab Khotsong's Life of Mine (LOM) and this will serve as a gateway for further opportunities beyond the initial project investment. Phase 1 of Project Zaaiplaats was approved in July 2010. No gold will be produced during this phase which will be used to establish infrastructure required for phase 2. Phase 2 will create a drilling platform and exploit early opportunities to produce gold. Phase 2 aims

to produce 519,000oz of gold which will supplement the current business plan.

The phase 3 study is currently in pre-feasibility phase and will transition to a feasibility study in 2013. The Zaaiploats studies are

planned to be completed in 2014. The purpose of this pre-feasibility study is to evaluate various options and identify opportunities

within these options, to reach a single study option outcome.

MOAB KHOTSONG **continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**28**

}

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other      Comments

Moab Khotsong

Measured

5 x 5

-

-

-            X

Chip sampling

Indicated

100 x 100,

800 x 800

X           -

-

-

Underground drilling

Inferred

1,000 x 1,000

X           -

-

-

Surface drilling

Grade/Ore control

-

-

-            X

See Measured category

{

**29**

SOUTH AFRICA



MOAB KHOTSONG **continued**

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Moab Khotsong

Category

Tonnes

Moz

Vaal Reef Lower Mine – Area A

Measured

–

–

–

–

Indicated

0.15

25.62

3.84

0.12

Inferred

0.97

21.93

21.36

0.69

Total

1.12

22.42

25.20

0.81

Vaal Reef Lower Mine – Area B

Measured

–

–

–

–

Indicated

3.64

10.10

36.80

1.18

Inferred

1.01

11.47

11.64

0.37

Total

4.65

10.40

48.44

1.56

Vaal Reef Lower Mine – Area C

Measured

–

–

–

–

Indicated

1.03

23.09

23.87

0.77

Inferred

2.02

17.34

35.04

1.13

Total

3.05

19.29

58.91

1.89

Vaal Reef Lower Mine – Area PZ 2

Measured

–

–

–

–

Indicated

10.31

18.54

191.11

6.14

Inferred

3.06

21.50

65.79

2.12

Total

13.37

19.22

256.90

8.26

Crystalkop Reef – Middle Mine Area

Measured

–

–

–

–

Indicated

—  
—  
—  
—

Inferred

1.28  
9.58  
12.22  
0.39  
Total  
1.28  
9.58  
12.22  
0.39

Vaal Reef – Middle Mine

Measured

1.40  
21.20  
29.69  
0.95

Indicated

5.00  
22.73  
113.73  
3.66

Inferred

2.23  
20.24  
45.18  
1.45

Total

8.63  
21.84  
188.60  
6.06

Vaal Reef – Top Mine

Measured

0.83  
26.95  
22.45  
0.72

Indicated

0.57  
19.13  
10.85  
0.35

Inferred

0.00  
18.90  
0.05

0.00  
 Total  
 1.40  
 23.77  
 33.35  
 1.07  
 Vaal Reef – Great Noligwa Shaft Pillar  
 Measured  
 0.11  
 16.95  
 1.83  
 0.06  
 Indicated  
 1.53  
 16.42  
 25.06  
 0.81  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 1.64  
 16.45  
 26.89  
 0.86  
 Moab Khotsong  
 Total  
 35.14  
 18.51  
 650.51  
 20.91  
 Exclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Moab Khotsong  
 Category  
 Tonnes  
 Moz  
 Measured  
 0.72  
 44.91  
 32.12  
 1.03  
 Indicated  
 16.38

19.55

320.18

10.29

Inferred

5.29

15.18

80.26

2.58

Moab Khotsong

Total

22.39

19.33

432.56

13.91

**2012** MINERAL RESOURCE AND ORE RESERVE REPORT

**30**

}

The Exclusive Mineral Resource consists of designed rock engineering bracket pillars, designed dip pillars and the Great Nologwa shaft pillar on the VR. The major portion of this Exclusive Mineral Resource is located in the Lower Mine area, with minor amounts in the Top and Middle Mines, C Reef and shaft pillar areas. The bracket pillars are designed for safety reasons and will therefore not be mined, whereas the shaft pillar can only be safely extracted at the end of the mine life.

Mineral Resource below infrastructure

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Moab Khotsong

Category

Tonnes

Moz

Measured

0.27

26.79

7.20

0.23

Indicated

16.40

14.89

244.31

7.85

Inferred

6.65

18.77

124.77

4.01

Moab Khotsong

Total

23.32

16.14

376.28

12.10

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Moab Khotsong

Category

Tonnes

Moz

Vaal Reef – Lower Mine – Area PZ 2

Proved

–  
–  
–  
–

Probable

13.56  
9.59  
129.99  
4.18  
Total  
13.56  
9.59  
129.99  
4.18

Vaal Reef – Middle Mine

Proved

1.02  
9.64  
9.86  
0.32

Probable

4.66  
11.17  
52.06  
1.67  
Total  
5.68  
10.90  
61.92  
1.99

Vaal Reef – Top Mine

Proved

0.60  
12.86  
7.76  
0.25

Probable

0.66  
8.80  
5.82  
0.19  
Total  
1.26  
10.73  
13.58  
0.44

Moab Khotsong

Total  
20.51

10.02  
205.48  
6.61  
Ore Reserve modifying factors  
as at  
31 December 2012  
Moab Khotsong  
Gold  
price  
\$/oz  
\$/ZAR  
exchange  
rate  
Cut-off  
value  
g/t Au  
Cut-off  
value  
cm.g/t Au  
Stoping  
width  
cm  
Dilution  
%  
MCF  
%  
MetRF  
%  
Vaal Reef – Lower Mine –  
Area PZ 2  
1,300  
6.94  
3.94  
500  
127.0  
55.4  
81.0  
96.0  
Vaal Reef – Middle Mine  
1,300  
6.94  
2.85  
500  
175.7  
46.5  
78.4  
95.9  
Vaal Reef – Top Mine  
1,300  
6.94  
2.98



500  
178.0  
43.2  
83.7  
95.8  
Moab Khotsong  
Mineral Resource reconciliation: 2011 to 2012  
19.95  
-0.25  
0.02  
-0.08  
1.26  
0.00  
0.01  
0.00  
20.91  
Ounces (millions)  
21.0  
20.8  
20.6  
20.4  
20.2  
20.0  
19.8  
19.6  
19.4  
2011  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
Moab Khotsong  
Ore Reserve reconciliation: 2011 to 2012  
7.00  
-0.19  
-0.17  
0.00  
0.00  
-0.04  
0.00  
0.00  
6.61

Ounces (millions)

7.0

6.9

6.8

6.7

6.6

6.5

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

{

**31**

SOUTH AFRICA

MOAB KHOTSONG **continued**

Inferred Mineral Resource in business plan  
as at 31 December 2012

Tonnes  
million

Grade

g/t

Contained gold

Moab Khotsong

Tonnes

Moz

Comment

Vaal Reef Lower Mine – Area

PZ 2

2.49

21.77

54.30

1.75

–

Vaal Reef – Middle Mine

0.48

14.42

6.95

0.22

–

Total

2.97

20.58

61.25

1.97

The Inferred Mineral Resource was used for optimisation purposes as it forms part of the business plan, but it was not included in the published Ore Reserve.

Ore Reserve below infrastructure

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Moab Khotsong

Category

Tonnes

Moz

Proved

–

–

–

–

Probable

13.56

9.59  
129.99  
4.18  
Moab Khotsong  
Total  
13.56  
9.59  
129.99  
4.18

COMPETENT PERSONS

Category

Name

Professional  
organisation

Registration  
number

Relevant  
experience

Mineral Resource

Francis Rebaone Gaelejwe

GSSA

965 326

12 years

Ore Reserve

Andre Johnson

SACNASP

400011/06

22 years

0

2

4

6

8

10

12

14

16

18

Moab Khotsong

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

27

25  
23  
21  
19  
17  
38  
34  
30  
26  
22  
18  
14

Tonnes above cut-off

Ave grade above cut-off

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**32**

}

## LOCATION

Situated south of the TauTona and Savuka mines, Mponeng is near the town of Carletonville and approximately 65km west of

Johannesburg. Along with TauTona and Savuka, Mponeng comprises the West Wits Operations. Through the use of two hoisting

shafts, a sub-shaft and two service shafts, Mponeng exploits the Ventersdorp Contact Reef (VCR) between the depths of 2,800m

and 3,000m below surface.

South of the Mponeng lease area lies the Western Ultra Deep Levels (WUDLS) area. This area is currently being explored through

an extensive surface drilling programme and from underground drilling platforms. Part of this area is included in the current Mineral

Resource and has potential to increase the overall Mineral Resource in the future.

## GEOLOGY

The VCR is the reef horizon being mined at Mponeng. The VCR forms the base of the Ventersdorp Supergroup which caps the

Witwatersrand Supergroup through an angular unconformity. The overlying Ventersdorp Lavas halted the deposition of the VCR

preserving it in its current state. The VCR consists of a quartz pebble conglomerate, which can be up to 3m thick in places. The

foot wall stratigraphy, following a period of uplift and erosion, controlled the development and preservation of the VCR. The foot wall

consists of series of sedimentary layers from the Central Rand Group of the Witwatersrand Supergroup, which due to its erosional

nature, exposes VCR from the youngest layers in the west to the oldest in the east.

The foot wall controlled deposition of the VCR also influences the distribution of grade at Mponeng mine. The relatively argillaceous

protoquartzites of the Kimberley Formation are covered by the best-preserved VCR conglomerates. The VCR is characterised by

a series of channel terraces preserved at different relative elevations, and the highest gold values are preserved in these channel

deposits. The different channel terraces are divided by zones of thinner 'slope' reef, which is of lower value and becomes more

prevalent on the higher terraces and on the harder foot wall units. The Elsburg Formation lies to the west and is relatively more durable,

while the eastern side of the mine is dominated by shales and siltstones of the Booyens Formation and due to the erosional nature

of the system, preserved both thick and thinner VCR conglomerates. No VCR is preserved on the Krugersdorp Formation on the far

eastern side of Mponeng.

The other gold-bearing reef that occurs at Mponeng is the Carbon Leader Reef (CLR). This reef has been mined at the adjacent

Savuka and TauTona mines, and plans are being made at Mponeng to mine the CLR in the future. The CLR at Mponeng consists of

(on average) a 20cm thick, tabular, auriferous quartz pebble conglomerate formed near the base of the Central Rand Group. The CLR

is approximately 900m deeper than the VCR. The CLR is divided into three sedimentary units, Unit 1, Unit 2 and Unit 3. The Mponeng

CLR Project area is dominated by Unit 3 with a smaller portion of Unit 2 towards the east. Unit 2 is a complex channel deposit, and

Unit 3 is the oldest of the CLR channel deposits and preserves the relatively lower values that can be contained in the CLR.

Both the VCR and the CLR reefs have been subjected to faulting and are intruded by a series of igneous dykes and sills of various ages that cross-cut the reefs. There is an inherent risk in mining through these faults and intrusives and a key objective of AngloGold

Ashanti mine geologists is to identify these geological features ahead of the working face to assist with deciding on the best practice

when approaching or mining through these structures.

MPONENG

{

**33**

SOUTH AFRICA

## EXPLORATION

The current exploration programme is designed to improve the Mineral Resource confidence by generating an updated information base. It is also critical for confirming the positions of geological structures which could affect future mining. The drilling targets explore the ground below and adjacent to current infrastructure and will further improve confidence in the Indicated portion of the Mineral Resource. The Inferred portion of the Mineral Resource which is part of the WUDLS Mineral Resource will be extensively probed from underground platforms. At Mponeng, experts in deep diamond drilling have been contracted to drill holes targeting strategic areas of the mine, namely areas below the 120 Level VCR and deep targets in the WUDLS area. Drilling of the western side of the lease area, into Block 3, has the aim of increasing the Mineral Resource and Ore Reserve. The CLR is being targeted from TauTona mine platforms into Mponeng, as well as through vertical holes over 1,000m deep. The planned extension of Mponeng, through phased projects to deepen the sub and decline shafts, will provide greater mining access to the CLR and the VCR. This has necessitated an increase in exploration drilling in order to meet the demands for the project start-up dates. Exploration drilling on both the CLR and the VCR will continue until the results have provided sufficient confidence in the geological models.

## PROJECTS

Mine expansion projects to increase the Life of Mine (LOM) have been divided into a phased system of planning and reporting. Each phase will extract a portion of the Mineral Resource currently below infrastructure. The Phase 1 VCR project has successfully accessed ground to 126 Level where further exploration and reef modelling work will improve the geological model to greater depths on the VCR reef. The Carbon Leader project Phase 2 will extract CLR below the mined out portion of the TauTona and Savuka mines from 123 and 126 Levels. Exploration drilling currently being done will further benefit future geological modelling on the CLR horizon. Further phases on VCR and CLR are being considered for economic studies and are dependent on the progress from continued exploration work. Work on the intrusive database in 2011 and 2012 and on the geochemistry of igneous intrusives still continues. The microscope and XRF classification data is being synthesised to seek a better understanding of the alteration distribution and tenor of gold mineralisation across the lease area.

Ongoing geological studies of CLR mineralisation will improve confidence in areas beyond the available information.

## MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond



RC  
Blast-  
hole  
Other Comments

Mponeng  
Measured  
5 x 5

-

-

- X

Chip sampling  
Indicated

100 x 100

X -

-

Underground drilling

Inferred

1,000 x 1,000

X -

-

-

Surface and underground drilling

Grade/Ore control

-

-

- X

See Measured category

**MPONENG continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**34**

}

{

**35**

SOUTH AFRICA

MPONENG

**continued**

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Mponeng

Category

Tonnes

Moz

TauTona Ventersdorp Contact Reef

Shaft Pillar

Measured

0.49

17.40

8.47

0.27

Indicated

1.25

20.21

25.22

0.81

Inferred

–

–

–

–

Total

1.74

19.42

33.69

1.08

Ventersdorp Contact Reef

Above 109 Level

Measured

6.40

11.27

72.16

2.32

Indicated

10.96

4.69

51.45

1.65

Inferred

–

–

–

–

Total  
17.36  
7.12  
123.61  
3.97  
Ventersdorp Contact Reef  
109 to 120 Level  
Measured  
3.81  
19.59  
74.61  
2.40  
Indicated  
6.54  
12.43  
81.31  
2.61  
Inferred  
0.65  
4.02  
2.60  
0.08  
Total  
11.00  
14.42  
158.52  
5.10  
Ventersdorp Contact Reef  
Below 120 Level  
Measured  
0.26  
20.49  
5.41  
0.17  
Indicated  
10.47  
16.10  
168.65  
5.42  
Inferred  
0.09  
4.10  
0.36  
0.01  
Total  
10.82  
16.11  
174.42  
5.61  
Ventersdorp Contact Reef WUDLS  
Measured

—  
—  
—  
—  
Indicated  
2.51  
14.67  
36.78  
1.18  
Inferred  
11.65  
14.87  
173.20  
5.57  
Total  
14.16  
14.84  
209.98  
6.75  
Ventersdorp Contact Reef Block 1  
Measured  
0.01  
16.56  
0.08  
0  
Indicated  
3.06  
4.00  
12.23  
0.39  
Inferred  
—  
—  
—  
—  
Total  
3.07  
4.02  
12.31  
0.40  
Ventersdorp Contact Reef Block 3  
Measured  
—  
—  
—  
—  
Indicated  
4.84  
5.35  
25.94  
0.83

Inferred

—  
—  
—  
—

Total

4.84  
5.35  
25.94  
0.83

Ventersdorp Contact Reef Block 5

Measured

0.05  
3.36  
0.18  
0.01

Indicated

4.23  
4.47  
18.93  
0.61

Inferred

—  
—  
—  
—

Total

4.28  
4.46  
19.11  
0.61

Ventersdorp Contact Reef

Outside Project Areas

Measured

0.07  
4.82  
0.34  
0.01

Indicated

8.16  
3.43  
28.02  
0.90

Inferred

0.10  
3.15  
0.32  
0.01

Total

8.33  
3.44

28.68

0.92

TauTona Carbon Leader Reef Shaft Pillar

Measured

0.32

42.35

13.50

0.43

Indicated

1.27

45.74

58.16

1.87

Inferred

–

–

–

–

Total

1.59

45.06

71.66

2.30

Carbon Leader Reef Below 120 Level

Measured

–

–

–

–

Indicated

26.25

21.64

567.85

18.26

Inferred

7.60

20.37

154.78

4.98

Total

33.85

21.35

722.63

23.23

Mponeng

Total

111.03

14.24

1,580.57

50.82

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

36  
}



Exclusive Mineral Resource  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Mponeng

Category

Tonnes

Moz

Measured

9.09

16.50

150.07

4.82

Indicated

35.27

15.28

538.97

17.33

Inferred

4.87

27.36

133.14

4.28

Mponeng

Total

49.23

16.70

822.18

26.43

The current mining practice on the West Wits to leave behind 35% to 50% of the Exclusive Mineral Resource as safety and remnant

blocks of ground. These blocks of ground are designed to provide additional stability to the stope faces during mining operations.

Bracket pillars are also placed around igneous intrusives to improve stability and to minimise risks associated with seismicity around these structures.

Other areas of the Mineral Resource that do not form part of LOM fall under categories considered to be beyond infrastructure and below the economic cut-off for the mine.

Mineral Resource below infrastructure

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Mponeng

Category

Tonnes

Moz

Measured

-  
-  
-  
-

Indicated

17.11  
20.34  
347.96  
11.19

Inferred

17.87  
16.72  
298.67  
9.60

Mponeng

Total

34.98  
18.49  
646.63  
20.79

Mponeng

Mineral Resource reconciliation: 2011 to 2012

49.52  
-0.50  
1.62  
0.00  
0.18  
0.00  
0.00  
0.00  
0.00  
50.82

Ounces (millions)

51.0  
50.6  
50.2  
49.8  
49.4  
49.0  
2011

Deple-  
tion

Gold  
price

Cost

Explo-  
ration

Metho-  
dology

Other

Acquisition/

Disposal

2012

Mponeng

Ore Reserve reconciliation: 2011 to 2012

14.02

-0.42

0.76

0.00

0.00

-0.55

0.00

0.00

13.81

Ounces (millions)

14.5

14.3

14.1

13.9

13.7

13.5

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

{

37

SOUTH AFRICA

MPONENG

**continued**

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Mponeng

Category

Tonnes Moz

Ventersdorp Contact Reef

Proved

0.62

6.06

3.78

0.12

Above 109 Level

Probable

1.04

5.47

5.70

0.18

Total

1.66

5.69

9.48

0.30

Ventersdorp Contact Reef 109

Proved

1.43

9.71

13.86

0.45

to 120 Level

Probable

5.33

6.32

33.69

1.08

Total

6.76

7.04

47.55

1.53

Ventersdorp Contact Reef

Proved

0.26

11.08

2.90  
0.09  
Below 120 Level  
Probable  
9.80  
8.62  
84.46  
2.72  
Total  
10.06  
8.68  
87.36  
2.81  
TauTona Carbon Leader Reef  
Proved  
—  
—  
—  
—  
Eastern Block  
Probable  
0.91  
11.70  
10.67  
0.34  
Total  
0.91  
11.70  
10.67  
0.34  
Carbon Leader Reef  
Proved  
—  
—  
—  
—  
Below 120 Level  
Probable  
23.12  
11.87  
274.40  
8.82  
Total  
23.12  
11.87  
274.40  
8.82  
Mponeng  
Total  
42.52  
10.10

429.45  
 13.81  
 Ore Reserve modifying factors  
 as at  
 31 December 2012  
 Mponeng  
 Gold  
 price  
 \$/oz  
 \$/ZAR  
 exchange  
 rate  
 Cut-off  
 value  
 g/t Au  
 Cut-off  
 value  
 cm.g/t Au  
 Stoping  
 width  
 cm  
 Dilution  
 %  
 MCF  
 %  
 MetRF  
 %  
 Carbon Leader Reef  
 Below 120 Level  
 1,300  
 6.94  
 7.14  
 750  
 105.0  
 12.9  
 81.0  
 98.1  
 TauTona Carbon Leader  
 Reef Eastern Block  
 1,300  
 6.94  
 5.89  
 750  
 127.3  
 62.4  
 81.8  
 98.1  
 Ventersdorp Contact  
 Reef 109 to 120 Level  
 1,300  
 6.94

5.17

750

145.0

53.5

83.2

98.1

Ventersdorp Contact

Reef Above 109 Level

1,300

6.94

5.17

750

145.0

52.7

82.5

98.1

Ventersdorp Contact

Reef Below 120 Level

1,300

6.94

5.17

750

145.0

47.5

84.5

98.1

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**38**

}

Mponeng

0.0

2.5

2.0

1.5

1.0

0.5

3.0

3.5

4.0

4.5

5.0

5.5

6.0

Grade tonnage curve – Underground (metric)

Tonnes above

cut-off (millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

115

105

95

85

75

65

19

17

15

13

Tonnes above cut-off

Ave grade above cut-off

Inferred Mineral Resource in business plan

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Mponeng

Tonnes Moz

Comment

Carbon Leader Reef Below

120 Level

5.67

14.46

81.96

2.63



Carbon Leader Reef Phase 4 and 6 – Level 2 (*in-situ*)

Total

5.67

14.46

81.96

2.63

Ore Reserve below infrastructure

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Mponeng

Category

Tonnes

Moz

Proved

–

–

–

–

Probable

23.12

11.87

274.40

8.82

Mponeng

Total

23.12

11.87

274.40

8.82

COMPETENT PERSONS

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Gareth Flitton

GSSA

964 758

9 years

Ore Reserve

Pieter Enslin

PLATO

PMS 0183

30 years

{

**39**

SOUTH AFRICA

## SAVUKA

### LOCATION

Savuka mine is located about 18km south of the town of Carletonville and forms part of AngloGold Ashanti's West Wits operations.

The mine exploits the Carbon Leader Reef (CLR) at depths varying from 2,600m to 3,500m below surface. The Ventersdorp Contact

Reef (VCR), which is about 700m above the CLR, has largely been mined out and mining operations on the VCR horizon ceased

in 2010.

Savuka has converted from a longwall configuration to a sequential grid mine and most of the mine's current production is derived from

the CLR. The Ore Reserve at the mine is largely exhausted and minimum mining operations are taking place.

### GEOLOGY

The CLR is a thin, tabular, auriferous quartz pebble conglomerate formed near the base of the Central Rand Group.

The CLR is on

average 20cm thick and has been divided into three stratigraphic units. Economically the most important is Unit 1, which is present as

a sheet-like deposit over the whole mine. Unit 2 is a complex channel deposit that is presently only being mined in the south and west

areas of Savuka. The reef may be over 2m thick where Unit 2 is developed. Unit 3 is preserved below Unit 1 in the southern parts of

Savuka and is the oldest of the three CLR stratigraphic units.

The VCR comprises a quartz pebble conglomerate (up to 5m thick) capping the topmost angular unconformity of the Witwatersrand

Supergroup. The topography of the VCR depositional area is uneven and consists of a series of slopes and horizontal terraces at

different elevations.

The reefs at Savuka are cross-cut by faults and intrusive dykes that displace the reef horizons. The faulting, in conjunction with the

numerous intrusives that also intersect the deposit, is responsible for most of the risk inherent with deep-level gold mining, since

seismicity is associated with these geological features.

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

40

}

EXPLORATION

Savuka is a mature mine that is approaching the end of its productive life. No exploration is currently taking place at this operation and

any un-mined ground will be re-allocated to surrounding mines.

PROJECTS

No projects are currently being undertaken at Savuka as this operation is in closure mode.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Savuka

Measured

5 x 5

-

-

- X

Chip sampling

Indicated

100 x 100

X -

-

-

Underground drilling

Inferred

1,000 x 1,000

X -

-

-

Surface drilling

Grade/Ore control

-

-

- X

See Measured category

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Savuka

Category

Tonnes	Moz
Ventersdorp Contact Reef	
Measured	
0.16	
12.87	
2.02	
0.06	
Indicated	
0.34	
13.53	
4.64	
0.15	
Inferred	
0.00	
8.55	
0.01	
0.00	
Total	
0.50	
13.32	
6.67	
0.21	
Carbon Leader Reef	
Measured	
1.39	
17.00	
23.56	
0.76	
Indicated	
3.42	
18.24	
62.40	
2.01	
Inferred	
–	
–	
–	
–	
Total	
4.81	
17.88	
85.96	
2.76	
Savuka	
Total	
5.31	
17.45	
92.63	
2.98	
Exclusive Mineral Resource	
as at 31 December 2012	

Tonnes	
million	
Grade	
g/t	
Contained gold	
Savuka	
Category	
Tonnes	Moz
Measured	
1.40	
16.53	
23.15	
0.74	
Indicated	
2.25	
18.64	
41.85	
1.35	
Inferred	
0.00	
8.55	
0.01	
0.00	
Savuka	
Total	
3.65	
17.83	
65.01	
2.09	

As Savuka is in closure mode, almost all of the published Mineral Resource is classified as Exclusive Mineral Resource. Only a small percentage of the published Mineral Resource is not part of the Exclusive Mineral Resource.

{

**41**

SOUTH AFRICA

SAVUKA

**continued**

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Savuka

Category

Tonnes                      Moz

Carbon Leader Reef

Proved

0.26

5.78

1.50

0.05

Probable

3.03

5.08

15.40

0.50

Savuka

Total

3.29

5.13

16.90

0.54

Ore Reserve modifying factors

as at

31 December 2012

Savuka

Gold

price

\$/oz

\$/ZAR

exchange

rate

Cut-off

value

g/t Au

Cut-off

value

cm.g/t Au

Stoping

width

cm

Dilution

%

MCF

%

MetRF

%

Carbon Leader Reef

1,300

6.94

7.50

900

120.0

63.1

60.1

97.3

Inferred Mineral Resource in business plan

No planning or scheduling took place in areas classified as Inferred Mineral Resource.

COMPETENT PERSONS

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Michelle Pienaar

GSSA

967 796

12 years

Ore Reserve

Joey Modise

PLATO

MS 0113

25 years

Savuka

Mineral Resource reconciliation: 2011 to 2012

3.02

-0.06

0.00

-0.02

0.02

0.02

0.00

0.00

2.98

Ounces (millions)

3.02

3.00

2.98

2.96

2.94



2.92  
2011  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
Savuka  
Ore Reserve reconciliation: 2011 to 2012  
0.60  
-0.04  
-0.02  
0.00  
0.00  
0.00  
0.00  
0.00  
0.00  
0.54  
Ounces  
(millions)  
0.61  
0.59  
0.57  
0.55  
0.53  
2011  
Depletion Model  
change  
Change  
in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Other  
Acquisition/  
Disposal  
2012  
Savuka  
0

1  
2  
3  
4  
5  
6  
0  
10  
8  
6  
4  
2  
12  
14  
16  
18  
20  
22  
24

Grade tonnage curve – Underground (metric)

Tonnes  
above  
cut-off  
(millions)

Average  
grade  
above  
cut-off (g/t)

Cut-off grade (g/t)

30  
28  
26  
24  
22  
20  
18  
16  
14

Tonnes above cut-off

Ave grade above cut-off

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**42**

}

## LOCATION

TauTona forms part of AngloGold Ashanti's West Wits operations and is located just south of Carletonville in the North West Province, about 70km southwest of Johannesburg. Mining at TauTona takes place at depths ranging from 2,000m to 3,640m. The mine has a three-shaft system and is in the process of converting from longwall mining to scattered grid mining.

## GEOLOGY

The Carbon Leader Reef (CLR) is the principal economic horizon at TauTona and the Ventersdorp Contact Reef (VCR) is the secondary economic horizon. The CLR is located near the base of the Johannesburg Subgroup, which forms part of the Central Rand Group.

The Central Rand Group sediments are unconformably overlain by the Klipriviersberg Lavas and the VCR is developed at the interface between the Central Rand Group sediment and these overlying lavas. The CLR and the VCR at TauTona are vertically separated by about 800m of shales and quartzites.

The CLR is a thin, on average 20cm thick, tabular, auriferous quartz pebble conglomerate and consists of three sedimentary facies or units. Economically the most important is Unit 1, which is present as a sheet-like deposit over the whole mine, although reef development and grades tend to drop off very rapidly where Unit 1 overlies Unit 2. Unit 2 is a complex channel deposit that is only present along the eastern-most limit of current mining at TauTona. The Unit 2 CLR may be over 2m thick. Unit 3 is preserved below Unit 1 in the southern parts of TauTona and is the oldest of the CLR conglomerates.

Production on the VCR at TauTona ceased in 2011. The VCR is comprised of a quartz pebble conglomerate (up to 2m thick) capping the top-most angular unconformity of the Witwatersrand Supergroup. The topography of the VCR depositional area is uneven and the reef is draped over a series of slopes and terraces at different elevations.

## TAUTONA

{

**43**

SOUTH AFRICA

EXPLORATION

The drilling of the 1C2 block began at the end of 2011, with three reef intersections drilled in 2012. The drilling programme will continue in 2013.

Drilling is also taking place from 120 Level at TauTona into Mponeng's ground to assist with information for the below 120 Carbon

Leader project. The information obtained from these drill holes is needed to confirm the geological structure of this area and to refine

the facies model. A total of 2,500m exploration drilling has been planned for 2013.

PROJECTS

A project was initiated to drill a series of long holes from 112 Level to explore the ground south of the Pretorius Fault Zone.

The programme was abandoned mid-2012 due to methane intersections. The programme will continue with shorter drill holes south

of the Pretorius Fault Zone to investigate the lateral movement of this geological structure and its implications.

Information on the

different intrusions, age relationships and characteristics of geological features are required to determine the geotechnical properties

of this area.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

TauTona

Measured

5 x 5

-

-

- X

Chip sampling

Indicated

100 x 100

X -

-

-

Underground drilling

Inferred

1,000 x 1,000

X -

-

-

Surface drilling

Grade/Ore control

-

-

- X

See Measured category

TAUTONA

**continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**44**

}

Inclusive Mineral Resource  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

TauTona

Category

Tonnes

Moz

East of the Bank Between 100 & 112 Levels

Measured

0.42

27.62

11.46

0.37

Indicated

2.18

20.36

44.46

1.43

Inferred

–

–

–

–

Total

2.60

21.52

55.92

1.80

Carbon Leader Reef – 1C11

Measured

0.07

18.70

1.34

0.04

Indicated

0.20

26.53

5.44

0.17

Inferred

–

–

–

–

Total

0.27

24.51

6.78

0.22

Carbon Leader Reef Base

Measured

1.30

28.91

37.69

1.21

Indicated

1.50

30.33

45.60

1.47

Inferred

—

—

—

—

Total

2.80

29.67

83.29

2.68

TauTona

Total

5.68

25.69

145.98

4.69

Exclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

TauTona

Category

Tonnes

Moz

Measured

1.45

28.33

41.05

1.32

Indicated

1.67

27.69

46.28

1.49

Inferred

—

—

—

–

TauTona

Total

3.12

27.99

87.33

2.81

The Exclusive Mineral Resource is dependent on mining strategy, but approximately 1.91Moz of the Exclusive Mineral Resource is

expected to be taken up in safety, boundary and remnant blocks of ground ahead of current mining.

TauTona

Mineral Resource reconciliation: 2011 to 2012

4.55

-0.29

0.00

-0.10

0.33

0.17

0.03

0.00

4.69

Ounces (millions)

4.7

4.6

4.5

4.4

4.3

4.2

4.1

4.0

2011

Deple-

tion

Gold

price

Cost

Explo-

ration

Metho-

dology

Other

Acquisition/

Disposal

2012

TauTona

Ore Reserve reconciliation: 2011 to 2012

1.92

-0.21

-0.06

0.00

0.00



0.00  
0.00  
0.00  
1.65  
Ounces  
(millions)  
2.0  
1.9  
1.8  
1.7  
1.6  
2011  
Depletion Model  
change  
Change  
in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Other  
Acquisition/  
Disposal  
2012  
{  
**45**  
SOUTH AFRICA

TAUTONA

**continued**

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

TauTona

Category

Tonnes

Moz

East of the Bank Between 100 & 112 Levels      Proved

0.32

10.40

3.30

0.11

Probable

3.07

7.59

23.27

0.75

Total

3.39

7.85

26.57

0.85

Carbon Leader Reef – 1C11

Proved

0.02

8.76

0.15

0.00

Probable

0.14

10.23

1.43

0.05

Total

0.16

10.07

1.58

0.05

Carbon Leader Reef Base

Proved

0.40

11.91

4.81

0.15

Probable

1.60  
 11.49  
 18.34  
 0.59  
 Total  
 2.00  
 11.57  
 23.15  
 0.74  
 TauTona  
 Total  
 5.54  
 9.26  
 51.30  
 1.65  
 Ore Reserve modifying factors  
 as at  
 31 December 2012  
 TauTona  
 Gold  
 price  
 \$/oz  
 \$/ZAR  
 exchange  
 rate  
 Cut-off  
 value  
 g/t Au  
 Cut-off  
 value  
 cm.g/t Au  
 Stoping  
 width  
 cm  
 Dilution  
 %  
 MCF  
 %  
 MetRF  
 %  
 Carbon Leader Reef – 1C11  
 1,300  
 6.94  
 7.89  
 900  
 120.0  
 54.1  
 79.1  
 97.5  
 Carbon Leader Reef Base  
 1,300

6.94  
7.89  
900  
95.0  
58.8  
79.1  
97.5  
East of the Bank Between  
100 & 112 Levels

1,300  
6.94  
7.89  
900  
95.0  
60.2  
79.1  
97.5  
Inferred Mineral Resource in business plan

No planning or scheduling took place in areas classified as Inferred Mineral Resource.

COMPETENT PERSONS

Category  
Name  
Professional  
organisation  
Registration  
number  
Relevant  
experience  
Mineral Resource  
Michelle Pienaar

GSSA  
967 796  
12 years  
Ore Reserve  
Joey Modise  
PLATO  
MS 0113  
25 years  
TauTona

0  
10  
8  
6  
4  
2  
12  
14  
16  
18  
20  
22

24

Grade tonnage curve – Underground (metric)

Tonnes above

cut-off

(millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

6.0

5.5

5.0

4.5

4.0

3.5

3.0

2.5

34

32

30

28

26

24

Tonnes above cut-off

Ave grade above cut-off

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**46**

}

## SURFACE OPERATIONS

### OVERVIEW

Surface operations in the South Africa Region produce gold by treating lower-grade surface material such as waste rock dumps and the re-treatment of tailings storage facilities. The surface operations comprise the Vaal River Surface and West Wits Surface operations. In Vaal River the Kopanang, West, Mispah and East gold plants are dedicated surface sources while the Noligwa gold plant and South uranium plant circuit process reef material for extraction of gold and uranium. Waste rock material is processed in the Noligwa gold plant (Vaal River), Mponeng and Savuka gold plants (West Wits) when mills are below full capacity. AngloGold Ashanti acquired the Mine Waste Solutions (MWS) tailings retreatment operation in the Vaal River region in July 2012.

The MWS tailings dams are scattered over an area that stretches approximately 13.5km north-south and 14km east-west. The MWS Mineral Resource comprises tailings storage facilities that originated from the processing of material from the Buffelsfontein, Hartebeestfontein and the Stilfontein gold mines.

### LOCATION

The Vaal River Surface operations are located immediately to the north and south of the Vaal River, close to the town of Orkney in the North West Province of South Africa. These operations extract gold from the waste rock dumps and tailings storage facility material emanating from the mining and processing of the Vaal Reef (VR) and Ventersdorp Contact Reef (VCR) that are mined at the Vaal River mines. Approximately 90% of surface gold is produced from the reclamation and treatment of waste rock dumps material. The remaining 10% comprises of gold from the hydraulic reclamation and re-treatment of a tailings dam called the Sulphur Paydam and by-product gold from the rehabilitation of surface areas. The rehabilitation is in line with our commitment to care for the environment.

The West Wits Surface operations are located on the West Wits Line, near the town of Carletonville, straddling the border between the North West and Gauteng Provinces in South Africa. These operations process waste rock dump material sourced from the mining and processing of the Carbon Leader Reef (CLR) and the VCR that are mined at the West Wits mines in the Carletonville/Fochville area.

The MWS operation is located in the western portion of the Witwatersrand Basin, some 160km from Johannesburg, approximately 8km from the town of Klerksdorp near Stilfontein in the North West Province, South Africa. The operation is within 20km of the Vaal River Surface operations.

{

47

SOUTH AFRICA

#### WASTE ROCK DUMPS AND TAILINGS STORAGE FACILITIES

The waste rock dumps have been built from waste rock mined from underground workings; hoisted, transported and deposited via

conveyor belt. The gold contained within these dumps was sourced from three areas:

- minor reefs that were developed in order to access the primary reef;
- gold-bearing reefs that were contained within small fault blocks that were exposed by off-reef development; and
- cross-tramming of gold-bearing reef material to the waste tips.

Over the years, the plants' residue resulting from the treatment of gold bearing ore has been pumped in a slurry form to the tailings

storage facilities.

During 2012, 10.7Mt were depleted and 0.1Moz of gold were produced from surface sources material (excluding MWS). The Vaal

River tailings storage facilities have been included as an Ore Reserve since the material will be processed through the MWS operations.

The MWS tailings dams are comprised of tailings material which originated from the processing of the underground ore from the

Buffels and Stilfontein gold mines, which both predominantly extracted gold from conglomerate reefs of the Witwatersrand Basin.

#### RECLAMATION METHODOLOGY

Bulldozers are used to create furrows through the waste rock material in order to blend the rock. The material is then loaded onto rail

hoppers by means of a front-end loader and transported to the Noligwa, Mispah, Kopanang and West gold plants.

The Sulphur Paydam is hydraulically reclaimed using high-pressure water. In order to facilitate blending of low and higher grade

material (necessitated by a definite grade gradient that exists from the bottom to the top of the tailings dam), reclamation takes place

in a three-bench, full-face operation. From the reclamation face, the slurry flows via trenches to the pump station, where oversized and

organic materials are screened out, and then pumped to the East gold plant for processing.

At MWS, the ore is washed from the faces through trenches down into a slurry collector at the pump stations. After the ore has been

treated, it is pumped to the new MWS tailings storage facility – Kareerand. There are currently three reclamation sites, each consisting

of their own monitoring, pumping, piping and plant module infrastructure.

#### ENVIRONMENTAL REHABILITATION

Rehabilitation work is ongoing and gold is produced from cleaning up operations at Vaal River where material is treated through the

archive mill. In 2012 almost 5,000oz were produced from remediation operations.

#### GROWTH

The Vaal River tailings storage facility reclamation project was initiated in 2011 to recover uranium oxide and gold from existing tailings

storage facilities by utilising new technology which has been developed inhouse. Synergies between the Vaal River and the MWS

tailings storage facilities will allow MWS to now exploit this Ore Reserve. The combined project has resulted in an increase in both the

gold and uranium Ore Reserves.

Currently the MWS material is processed for extraction of gold only; it is envisaged that the uranium circuit will be commissioned in the

fourth quarter of 2013. The Mineral Resource is estimated to contain 56.5Mlb of uranium and 2.6Moz of gold.

SURFACE OPERATIONS **continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**48**

}



MINERAL RESOURCE  
 Inclusive Mineral Resource  
 as at 31 December 2012

Tonnes  
 million

Grade

g/t

Contained gold

Vaal River Surface

Category

Tonnes

Moz

Tailings storage facility

Measured

–

–

–

–

Indicated

446.58

0.28

123.05

3.96

Inferred

–

–

–

–

Total

446.58

0.28

123.05

3.96

Waste rock dump

Measured

–

–

–

–

Indicated

41.71

0.51

21.42

0.69

Inferred

5.05

0.69

3.48

0.11

Total

46.76

0.53  
 24.90  
 0.80  
 Vaal River Surface  
 Total  
 493.34  
 0.30  
 147.94  
 4.76  
 Mine Waste Solutions  
 Tailings storage facility  
 Measured  
 161.32  
 0.23  
 36.50  
 1.17  
 Indicated  
 161.55  
 0.24  
 39.24  
 1.26  
 Inferred  
 15.51  
 0.30  
 4.62  
 0.15  
 Mine Waste Solutions  
 Total  
 338.37  
 0.24  
 80.36  
 2.58  
 West Wits Surface  
 Tailings storage facility  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 175.61  
 0.24  
 42.92  
 1.38  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 175.61

0.24  
 42.92  
 1.38  
 Waste rock dump  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 12.17  
 0.49  
 5.94  
 0.19  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 12.17  
 0.49  
 5.94  
 0.19  
 West Wits Surface  
 Total  
 187.78  
 0.26  
 48.86  
 1.57  
 Exclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Category  
 Tonnes                      Moz  
 Mine Waste Solutions  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 1.20  
 0.30  
 0.36  
 0.01  
 Inferred

15.51

0.30

4.62

0.15

Total

16.71

0.30

4.98

0.16

West Wits Surface

Measured

—

—

—

—

Indicated

178.39

0.24

43.53

1.40

Inferred

—

—

—

—

Total

178.39

0.24

43.53

1.40

The Exclusive Mineral Resource includes a small portion of MWS and the majority of West Wits Surface operations' Mineral Resource.

{

**49**

SOUTH AFRICA

**SURFACE OPERATIONS continued**

West Wits Surface

Mineral Resource reconciliation: 2011 to 2012

1.57

-0.01

0.00

0.00

-0.00

0.02

-0.00

0.00

1.57

Ounces (millions)

1.574

1.570

1.566

1.562

1.558

1.554

2011

Deple-

tion

Gold

price

Cost

Explo-

ration

Metho-

dology

Other

Acquisition/

Disposal

2012

West Wits Surface

Ore Reserve reconciliation: 2011 to 2012

0.19

-0.01

0.01

-0.02

0.00

0.00

-0.00

0.00

0.17

Ounces (millions)

0.188

0.184

0.180

0.176

0.172

0.168

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

Mine Waste Solutions

Mineral Resource reconciliation: 2011 to 2012

2011

0.00

Deple-

tion

-0.07

Gold

price

0.00

Cost

0.00

Explora-

tion

0.00

Metho-

dology

0.00

Other

-0.00

Acquisition/

Disposal

2.66

2012

2.58

Ounces (millions)

3.0

2.5

2.0

1.5

1.0

0.5

0.0

Mine Waste Solutions

Ore Reserve reconciliation: 2011 to 2012

2011  
 0.00  
 Deple-  
 tion  
 -0.07  
 Model  
 change  
 0.00  
 Change  
 in  
 Economics  
 0.00  
 New  
 ounces  
 from  
 Projects  
 0.00  
 Scope  
 change  
 0.00  
 Other  
 -0.01  
 Acquisition/  
 Disposal  
 2.43  
 2012  
 2.35  
 Ounces (millions)  
 2.5  
 2.0  
 1.5  
 1.0  
 0.5  
 0.0  
 Vaal River Surface  
 Mineral Resource reconciliation: 2011 to 2012  
 4.90  
 -0.18  
 0.00  
 0.00  
 -0.03  
 0.06  
 0.01  
 0.00  
 4.76  
 Ounces (millions)  
 4.95  
 4.90  
 4.85  
 4.80  
 4.75

4.70  
4.65  
4.60  
2011  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
Vaal River Surface  
Ore Reserve reconciliation: 2011 to 2012  
4.78  
-0.18  
0.05  
0.03  
0.00  
0.00  
-0.03  
0.00  
4.65  
Ounces (millions)  
4.78  
4.74  
4.70  
4.66  
4.62  
4.58  
2011  
Depletion Model  
change  
Change  
in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Other  
Acquisition/  
Disposal  
2012



**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**50**

}

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Vaal River Surface

Category

Tonnes

Moz

Tailings storage facility

Proved

–

–

–

–

Probable

446.58

0.28

125.46

4.03

Total

446.58

0.28

125.46

4.03

Waste rock dump

Proved

–

–

–

–

Probable

41.71

0.46

19.13

0.62

Total

41.71

0.46

19.13

0.62

Vaal River Surface

Total

488.29

0.30

144.59

4.65

Mine Waste Solutions

Tailings storage facility  
 Proved  
 141.70  
 0.23  
 32.63  
 1.05  
 Probable  
 158.64  
 0.25  
 40.38  
 1.30  
 Mine Waste Solutions  
 Total  
 300.34  
 0.24  
 73.01  
 2.35  
 West Wits Surface  
 Waste rock dump  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 9.39  
 0.57  
 5.33  
 0.17  
 West Wits Surface  
 Total  
 9.39  
 0.57  
 5.33  
 0.17  
 Ore Reserve modifying factors  
 as at  
 31 December 2012  
 Vaal River Surface  
 Gold  
 price  
 \$/oz  
 \$/ZAR  
 exchange  
 rate  
 Cut-off  
 value  
 g/t Au  
 Cut-off  
 value  
 cm.g/t Au

Stopping  
 width  
 cm  
 Dilution  
 %  
 MCF  
 %  
 MetRF  
 %  
 Waste rock dump  
 1,300  
 6.94  
 0.44  
 –  
 –  
 –  
 97.0  
 88.8  
 Tailings storage facility  
 1,300  
 6.94  
 0.24  
 –  
 –  
 –  
 100.0  
 51.5  
 Mine Waste Solutions  
 Tailings storage facility  
 1,300  
 6.94  
 0.24  
 –  
 –  
 –  
 100.0  
 51.6  
 West Wits Surface  
 Waste rock dump  
 1,300  
 6.94  
 0.49  
 –  
 –  
 –  
 98.0  
 93.0  
 Inferred Mineral Resource in business plan  
 as at 31 December 2012  
 Tonnes  
 million

Grade  
g/t  
Contained gold  
Vaal River Surface  
Tonnes  
Moz  
Comment  
Waste rock dump  
5.05  
0.65  
3.29  
0.11  
No. 3 waste rock dump  
Total  
5.05  
0.65  
3.29  
0.11

COMPETENT PERSONS

Category  
Name  
Professional  
organisation  
Registration  
number  
Relevant  
experience  
Mineral Resource  
Raymond Orton  
PLATO  
MS 0132  
26 years  
Ore Reserve  
Mariaan Gagiano  
SAIMM  
705 920  
28 years  
{  
**51**  
SOUTH AFRICA

OVERVIEW

Uranium is produced at Vaal River by processing the reef material from Moab Khotsoang, Great Noligwa and Kopanang in the Noligwa gold plant/South Uranium plant circuit. The reef is milled at the Noligwa gold plant and treated in the South Uranium plant for uranium oxide extraction by the reverse leach process. Ammonium diuranate (ADU or 'yellow cake') is the final product of the South Uranium plant and is transported to Nufcor (located in Gauteng) where the material is calcined and packed for shipment to the converters. A total of 1.21Mlb of uranium oxide was produced in 2012.

GROWTH

The expansion project at the South Uranium plant was commissioned in 2012 resulting in all the Kopanang reef being subjected to the uranium extraction process.

AngloGold Ashanti acquired the Mine Waste Solutions (MWS) tailings retreatment operation in the Vaal River region in July 2012.

Currently the tailings storage facility material is processed for extraction of gold; it is projected that the uranium circuit will be

commissioned in Quarter 4, 2013 for extraction of uranium from the tailings storage facility material. The Inclusive Mineral Resource is estimated to contain 56.5Mlb of uranium and 2.6Moz of gold.

The Vaal River tailings storage facility reclamation project was commissioned in 2011 to recover uranium oxide and gold from existing

tailings storage facilities by utilising new technology which has been developed inhouse by AngloGold Ashanti. Synergies between

the Vaal River and the MWS tailings storage facilities will allow for the exploitation of the Ore Reserve through the MWS operations.

The combined project has resulted in an increase in both the gold and uranium Ore Reserves.

Inclusive Mineral Resource by-product: Uranium (U

3

O

8

)

Tonnes

million

Grade

kg/t

Contained uranium oxide

as at 31 December 2012

Category

Tonnes

Pounds

million

Great Noligwa

Measured

–

–

–

–

Indicated

1.68

0.61  
1,029  
2.27  
Inferred  
0.01  
0.37  
3  
0.01  
Total  
1.69  
0.61  
1,032  
2.28  
Kopanang  
Measured  
—  
—  
—  
—  
Indicated  
21.37  
0.67  
14,336  
31.61  
Inferred  
2.11  
0.63  
1,329  
2.93  
Total  
23.48  
0.67  
15,665  
34.54  
Moab Khotsong  
Measured  
3.64  
0.73  
2,667  
5.88  
Indicated  
21.94  
0.92  
20,127  
44.37  
Inferred  
9.57  
0.76  
7,234  
15.95  
Total

35.15  
 0.85  
 30,027  
 66.20  
 Vaal River Surface  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 446.58  
 0.09  
 42,177  
 92.98  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 446.58  
 0.09  
 42,177  
 92.98  
 Mine Waste Solutions  
 Measured  
 161.32  
 0.07  
 11,335  
 24.99  
 Indicated  
 159.84  
 0.08  
 12,831  
 28.29  
 Inferred  
 15.51  
 0.09  
 1,469  
 3.24  
 Total  
 336.67  
 0.08  
 25,634  
 56.52  
 Mponeng  
 Measured  
 0.35  
 0.31  
 107



0.24  
Indicated  
27.49  
0.29  
8,049  
17.75  
Inferred  
7.60  
0.29  
2,240  
4.94  
Total  
35.44  
0.29  
10,396  
22.93  
URANIUM  
**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**  
**52**  
}

Tonnes  
million  
Grade  
kg/t  
Contained uranium oxide  
as at 31 December 2012

Category  
Tonnes  
Pounds  
million  
Savuka  
Measured

—  
—  
—  
—

Indicated  
4.81  
0.28  
1,352  
2.98

Inferred  
—  
—  
—  
—

Total  
4.81  
0.28  
1,352  
2.98

TauTona  
Measured

—  
—  
—  
—

Indicated  
5.68  
0.31  
1,764  
3.89

Inferred  
—  
—  
—  
—

Total  
5.68  
0.31  
1,764

3.89  
 West Wits Surface  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 175.61  
 0.07  
 12,593  
 27.76  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 175.61  
 0.07  
 12,593  
 27.76  
 Total  
 Total  
 1,065.10  
 0.13  
 140,641  
 310.06  
 Ore Reserve by-product: Uranium (U3O8)  
 Tonnes  
 million  
 Grade  
 kg/t  
 Contained uranium oxide  
 as at 31 December 2012  
 Category  
 Tonnes  
 Pounds  
 million  
 Great Noligwa  
 Proved  
 1.36  
 0.27  
 368  
 0.81  
 Probable  
 0.31  
 0.27  
 84  
 0.19  
 Total

1.67  
0.27  
453  
1.00  
Kopanang  
Proved  
1.02  
0.34  
352  
0.78  
Probable  
4.87  
0.34  
1,657  
3.65  
Total  
5.89  
0.34  
2,009  
4.43  
Moab Khotsong  
Proved  
—  
—  
—  
—  
Probable  
20.51  
0.44  
9,090  
20.04  
Total  
20.51  
0.44  
9,090  
20.04  
Vaal River Surface  
Proved  
—  
—  
—  
—  
Probable  
440.83  
0.09  
41,562  
91.63  
Total  
440.83  
0.09  
41,562

91.63

Mine Waste Solutions

Proved

131.54

0.07

8,554

18.86

Probable

158.73

0.07

11,825

26.07

Total

290.27

0.07

20,379

44.93

Total

Total

759.18

0.10

73,492

162.03

Inclusive Mineral Resource by-product: Uranium (U3O8) continued

{

**53**

SOUTH AFRICA

CONTINENTAL  
AFRICA

}

*DRC: Mongbwalu*

**2012** MINERAL RESOURCE AND ORE RESERVE REPORT

**54**

}

AngloGold Ashanti has eight mining operations in its Continental Africa Region:

- Iduapriem and Obuasi in Ghana;
- Siguiri in Guinea;
- Morila, Sadiola and Yatela in Mali;
- Navachab in Namibia; and
- Geita in Tanzania.

It also has two advanced projects in the Democratic Republic of the Congo (DRC), namely Kibali and Mongbwalu. Combined production from these operations totalled 1.52Moz of gold in 2012, equivalent to 39% of group production.

The Inclusive

Mineral Resource in Continental Africa totalled 73.01Moz at year-end, including an Ore Reserve of 27.59Moz.

Inclusive Mineral Resource

Tonnes

million

Grade

g/t

Contained gold

as at 31 December 2012

Category

Tonnes

Moz

Continental Africa

Measured

131.62

2.66

350.13

11.26

Indicated

545.26

2.22

1,210.79

38.93

Inferred

312.24

2.27

710.00

22.83

Total

989.12

2.30

2,270.92

73.01

Ore Reserve

Tonnes

million

Grade

g/t

Contained gold  
as at 31 December 2012

Category

Tonnes

Moz

Continental Africa

Proved

81.33

2.10

170.71

5.49

Probable

309.74

2.22

687.48

22.10

Total

391.06

2.19

858.19

27.59

#### REGIONAL OVERVIEW

This section covers AngloGold Ashanti's eight mining operations and two advanced projects in six countries within the Continental Africa Region.

Contribution to group production

(%)

Continental Africa

39

Rest of AngloGold Ashanti

61

Geita

35

Obuasi

18

Siguiri

16

Iduapriem

12

Sadiola

7

Morila

5

Navachab

5

Yatela

2

Contribution to production by mine

(%)

{

**55**



CONTINENTAL AFRICA

## COUNTRY OVERVIEW

AngloGold Ashanti has two advanced projects in the Democratic Republic of the Congo (DRC), Kibali and Mongbwalu.

### Kibali

On 15 October 2009 AngloGold Ashanti acquired a 50% indirect interest in Moto Goldmines Ltd through a joint venture with Randgold

Resources Limited (Randgold). On 21 December 2009, Randgold and AngloGold Ashanti increased their joint venture interest in the

Kibali gold project to 90%, whilst Société L'Office des Mines d'Or de Kilo-Moto (SOKIMO) retained a 10% holding. The project is a joint development between three separate groups:

- AngloGold Ashanti;

- Randgold, who is the operator, an African-focused gold mining and exploration business with primary listings on the London Stock

Exchange and Nasdaq; and

- SOKIMO, the state-owned gold mining company.

The consolidated lease is made up of 10 mining concessions.

### Mongbwalu

The Mongbwalu Project is one of AngloGold Ashanti's most important exploration projects and is situated within the 5,487km<sup>2</sup>

permit covered by Concession 40 in the Ituri Province of north-eastern DRC. Concession 40 has a rich history of gold occurrences

and covers the entire Kilo Archaean granite-greenstone belt that extends approximately 850km west-northwest of Lake Albert.

The concession is held in a joint venture between AngloGold Goldfields Kilo (AGK) and SOKIMO, a government body which currently

holds a 13.8% non-contributory share. AGK is 86.2% owned by AngloGold Ashanti. A feasibility study has been completed around

the old Adidi mine as part of the agreement with the DRC government.

## MINERAL RESOURCE ESTIMATION

Mineral Resource estimation is undertaken by inhouse Competent Persons or by approved external consultants. The results of both

diamond drilling (DD) and reverse circulation (RC) drilling are used in the estimation process. 3D mineralised envelopes are established

using both grade and geology and these are then statistically verified to confirm their validity for use in grade estimation. Volumes are

then filled with block model cells and these are then interpolated for density, rock type and grade, the latter using Ordinary Kriging.

Grade top cuts are applied to drill-hole data to prevent the spread of high grades during the estimation process.

### Drill-hole spacing

is used to guide the Mineral Resource classification according to requirements of the relevant reporting codes. The open pit Mineral

Resource is quoted within a limiting shell and underground Mineral Resources are quoted above a specified cut off.

## ORE RESERVE ESTIMATION

The Ore Reserve for Kibali has been based on the latest Mineral Resource model using Ordinary Kriging. High-grade domains

(1.0-4.0g/t) are commonly surrounded by a low-grade (+0.3g/t) halo.

The open pit Ore Reserve shell optimisations were completed on the Mineral Resource model using 3D Ordinary Kriging.

This incorporated the mining layout, operating factors, stripping ratio and relevant cut-off grade for the Ore Reserve. An open pit –

underground interface was determined as optimal at 5,685mRL between the Karagba, Chauffeur and Durba deposit (KCD) open pit and underground mine.

A cut-off grade analysis at \$1,000/oz was used to determine a cut-off grade of 2.0g/t for the underground mine.

Longitudinal and

transverse stoping methods with hydraulic and waste rock fill were chosen as the preferred mining method.

Underground stope

designs were updated from the previously reported Ore Reserve using the Mineral Resource model. Modifying factors for planned and

unplanned rock dilution, backfill dilution and ore loss were applied to obtain the reported Ore Reserve. Metallurgical, environmental,

social, legal, marketing and economic factors were adequately considered in the Kibali feasibility study for the Ore Reserve to

remain viable.

DRC

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**56**

}

## LOCATION

The Kibali project is located in the north-eastern part of the Democratic Republic of the Congo (DRC) near the international borders with Uganda and Sudan. The local office is located in the village of Doko, which is centrally located within the project area. The Kibali project is approximately 210km by road from Arua, on the Ugandan border and immediately north of the district capital of Watsa. The project area falls within the administrative district of Haut Uélé in Province Orientale. The town of Bunia, which is the United Nations controlled entry point to north-eastern DRC, lies about 200km to the south of the project.

## GEOLOGY

The Kibali project is located within the Moto Greenstone Belt, which consists of Archaean Kibalian volcano-sedimentary rocks and ironstone-chert horizons that have been metamorphosed to greenschist facies. It is cut by regional scale north, east, northeast and northwest trending faults and is bounded to the north by the Middle Archaean West Nile granite-gneiss complex and the south by the Upper Zaire granitic complex. The local geology consists of a volcano-sedimentary sequence comprising fine-grained sedimentary rocks, several varieties of pyroclastic rocks, basaltic flow rocks, mafic-intermediate intrusions (dykes and sills) and intermediate-felsic intrusive rocks (stocks, dykes and sills). This sequence is variably altered from slight to intense, such that in some cases the original lithology of the rock is unrecognisable. Several major mineralised trends have been outlined by soil geochemistry data and by the distribution of known gold mineralisation. The Kibali-Durba-Karagba Trend and the Gorumbwa-Kombokolo Splay are anomalous with respect to gold endowment, and together define a mineralised, northeast-striking 'mineralised corridor', 1.5km wide and 8km long. These corridors host the deposits of Kibali, Sessenge, Gorumbwa, Karagba, Chauffeur and Durba and Pakaka. The main Kibali deposit, which comprises the combination of Karagba, Chauffeur and Durba, is colloquially termed the KCD deposit and hosts 73% of the grant's Mineral Resource and 82% of the Ore Reserve (for both open pit and underground mining options). The next biggest deposit is Pakaka, which hosts some 6% of the Mineral Resource and 7% of the Ore Reserve. Currently only the KCD deposit hosts an underground Ore Reserve and this constitutes 66% of the total KCD Ore Reserve. Gold mineralisation is generally associated with structural features, resulting in tightly constrained zones which often host pods or lenses of plunging mineralisation. Alteration is closely associated with the mineralisation and is typically carbonate-silica-albite with minor sulphide.

## KIBALI

{

57

CONTINENTAL AFRICA

KIBALI

**continued**

EXPLORATION

A large amount of exploration was undertaken by the previous owners of the Kibali project, Moto Goldmines Ltd, and this was focused primarily on the KCD deposit. Since the acquisition of the concession area by AngloGold Ashanti and Randgold, the dominant exploration targets have been the KCD underground area and upgrading the confidence in the proposed KCD open pit. During 2012 exploration was focused on confidence upgrades and ore extensions around the KCD deposit. This proved to be successful with significant amounts of the Inferred Mineral Resource being upgraded to an Indicated Mineral Resource. The advanced and infill grade control programmes also identified additional ore tonnages.

PROJECTS

A feasibility study was completed by Randgold in 2011 and as per schedule, implementation began in 2012. A revised feasibility schedule was issued at the first quarter 2012 board meeting and accordingly open pit mining was moved out from an initial starting date of April to July 2012. The mining of Mengu Hill was brought forward to offset delays in underground mining.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Kibali

Measured

10 x 5

—

—

—

—

Indicated

40 x 40

—

—

—

Inferred

80 x 100

—

—

—

—

Grade/Ore control

–  
 –  
 –  
 –  
 –  
 Inclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Kibali  
 Category  
 Tonnes            Moz  
 Open pit  
 Measured  
 1.97  
 3.00  
 5.89  
 0.19  
 Indicated  
 34.38  
 2.13  
 73.24  
 2.35  
 Inferred  
 17.29  
 1.93  
 33.37  
 1.07  
 Total  
 53.64  
 2.10  
 112.50  
 3.62  
 Underground  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 24.59  
 5.23  
 128.60  
 4.13  
 Inferred  
 8.74  
 2.68  
 23.43

0.75  
 Total  
 33.33  
 4.56  
 152.03  
 4.89  
 Kibali  
 Total  
 86.97  
 3.04  
 264.52  
 8.50  
 Exclusive Mineral Resource  
 as at 31 December 2012

Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Kibali  
 Category  
 Tonnes            Moz  
 Measured

0.37  
 1.85  
 0.68  
 0.02  
 Indicated  
 24.18  
 2.47  
 59.83  
 1.92  
 Inferred  
 26.03  
 2.18  
 56.80  
 1.83  
 Kibali  
 Total  
 50.58  
 2.32  
 117.31  
 3.77

The Exclusive Mineral Resource is primarily due to the gold price differential between the Mineral Resource and Ore Reserve.

At the KCD deposit it is also partially due to the selection of a fixed interface between the open pit and the underground mining areas.

The Exclusive Mineral Resource makes up 48% of the total Mineral Resource. The Inferred Mineral Resource component forms a significant component of this material.

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

58  
}



ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Kibali

Category

Tonnes Moz

Open pit

Proved

1.59

3.26

5.20

0.17

Probable

18.51

2.53

46.79

1.50

Total

20.10

2.59

51.99

1.67

Underground

Proved

–

–

–

–

Probable

17.39

5.81

101.06

3.25

Total

17.39

5.81

101.06

3.25

Kibali

Total

37.49

4.08

153.04

4.92

Ore Reserve modifying factors

% RRF

% MRF  
as at  
31 December 2012

Kibali

Gold

price

\$/oz

Cut-off

value

g/t Au

Stoping

width

cm

Dilution

%

Dilution

g/t

(based

on

tonnes)

% RRF

(based

on g/t)

(based

on

tonnes)

% MRF

(based

on g/t)

MCF

%

MetRF

%

Open pit

1,000

0.93

–

10.0

–

50.0

28.0

–

–

–

84.5

Underground

1,000

2.00

2,000

8.0

2.46

-  
-  
-  
-  
-

91.3  
Inferred Mineral Resource in business plan  
There is no Inferred Mineral Resource included in the reported Ore Reserve for Kibali. The current mine plan does not have any reliance on the Inferred Mineral Resource to support the economic viability of the project.

Kibali

0  
10  
20  
30  
40  
50  
60  
70  
0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10

Grade tonnage curve – Surface (metric)

Tonnes above  
cut-off (millions)

Average  
grade above  
cut-off (g/t)

Cut-off grade (g/t)

16  
14  
12  
10  
8  
6  
4  
2  
0

Tonnes above cut-off  
Ave grade above cut-off

Kibali

0  
10

20  
30  
40  
50  
60  
70  
80  
90  
0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average grade above cut-off (g/t)

Cut-off grade (g/t)

14

12

10

8

6

4

2

0

Tonnes above cut-off

Ave grade above cut-off

Kibali

Mineral Resource reconciliation: 2011 to 2012

Ounces (millions)

2011

Deple-

tion

Gold

price

Cost

Explo-

ration

Metho-

dology

Other

Acquisition/

Disposal

2012

8.38

0.00

0.00

0.00

-0.05

0.00

0.17

0.00

8.50

8.52

8.48

8.44

8.40

8.36

8.32

Kibali

Ore Reserve reconciliation: 2011 to 2012

Ounces (millions)

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

4.95

4.85

4.75

4.65

4.55

4.45

4.52

0.00

0.40

0.00

0.00

0.00

0.00

0.00

4.92

{

**59**

CONTINENTAL AFRICA

COMPETENT PERSONS

Category

Name

Professional  
organisation

Registration  
number

Relevant  
experience

Mineral Resource

Rodney Quick\*

SACNASP

400014/05

19 years

Ore Reserve

Rodney Quick\*

SACNASP

400014/05

19 years

*\* Employed by Randgold Resources Limited*

KIBALI

**continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**60**

}

## LOCATION

The Mongbwalu project covers an area of 396km<sup>2</sup> which forms part of the larger Ashanti Goldfields Kilo (AGK) concession of exploitation licences, totalling 5,487km<sup>2</sup> in the Ituri province of the north-eastern DRC. The district capital of Bunia lies to the southwest of the concession area, some three hours by road from the project site. Bunia is approximately one hour's flight from the nearest international airport at Kampala in Uganda.

## GEOLOGY

The Mongbwalu Project is located in the Kilo Archaean granite-greenstone belt, approximately 3,000km<sup>2</sup> in area and situated 850km west-northwest of Lake Albert. The Kibalian rocks have been divided into an upper and lower unit. The lower unit is dominated by magnesium-rich tholeiitic basalts whilst the upper unit is dominated by schists, quartzites and banded iron formations. The relationship between the upper and lower units appears to be conformable.

The oldest known rocks at Mongbwalu are basement gneisses which have been dated at more than 3,400Ma. Granitoid rocks comprise more than 80% of the area, which includes rafts of Kibalian rocks, intruded by diorites of variable mineralogy, dated at 2,651Ma.

The Kilo Archaean granite-greenstone belt was part of the Tanzania shield but was separated by Late Proterozoic crustal mobilisation and then by later rifting along the eastern Rift Valley system. The rocks have undergone regional metamorphism, ranging from upper greenschist to lower amphibolite facies. During the formation of the east African rift system over the past 100 – 200Ma, north-south faults formed, along which dolerite-lamprophyre dykes were intruded. There is also evidence of some younger faulting in the region. The area has undergone weak lateritic weathering to shallow depths. Cover sequences are thin and are generally no greater than 1m thick.

The mineralisation at Mongbwalu is hosted in anatomising mylonite bodies of around 10 – 15m in width. These mylonite bodies have been subdivided into three main blocks separated by the late north-south trending Nzebi and Adidi faults, which offset mineralisation by up to 200m. The fault blocks are termed the Western, Central and Eastern blocks – hosting the Nzebi, Adidi and Kanga mylonites respectively.

## MONGBWALU

{

**61**

CONTINENTAL AFRICA



## MONGBWALU

### **continued**

The mylonites are composed of quartz, dolomite, calcite, chlorite, sericite and albite. The main mineralisation is hosted in the Central and Eastern blocks. The gold is not distributed evenly throughout the mylonite and it primarily occurs in 'boudinaged zones' associated with quartz veining and silicification, mainly occurring as free gold, and is often visible in greyish quartz veins and veinlets or disseminated through silicified zones within the mylonite. Minor sulphides present in the mylonite include pyrite, pyrrhotite, chalcopyrite, sphalerite and galena.

Granitoids dominated by diorite, quartz diorite and tonalite form the foot wall and hanging wall to the mineralisation in the area.

However, at Nzebi Mine, east-west striking talc carbonate schists of mafic to ultramafic composition and massive para-amphibolite dominate.

### EXPLORATION

Based on the 2008 conceptual study and the 2009 Mineral Resource estimate, it was decided to advance the Mongbwalu project with a 50m by 25m infill drilling campaign to upgrade the Mineral Resource estimate from an Inferred to Indicated Mineral Resource.

The high-grade areas identified in the conceptual mine design would then be extractable during the first five years of mine life.

Based on the information from the 2009 Mineral Resource model and grade estimate, a programme was designed to upgrade approximately 1.0Moz of the Inferred Mineral Resource to Indicated Mineral Resource, which has successfully been achieved. Since

2009, 1.2Moz have been upgraded to the Indicated Mineral Resource category.

The need for geometallurgical and geotechnical information from the Mineral Resource area was identified and separate programmes

to meet these requirements were compiled. These programmes included geotechnical drilling for civil engineering purposes, limited sterilisation and condemnation drilling and water drilling. In 2011 a total of 6,400m of diamond drilling (DD) and 2,750m of reverse circulation (RC) drilling were completed. In 2012 a total of 19,863m of DD and 9,941m of RC drilling were completed.

### PROJECTS

The November 2011 Mineral Resource model was used as the basis for the 2012 figures. The interpretation of the high-grade mineralisation in this model was based on a geological re-logging exercise that identified three relatively continuous mineralised quartz ore zones within the mylonite. Three quartz zones were modelled in the updated model, resulting in a thinner, more laterally continuous mineralised horizon. Due to delays in the 2012 drilling and assaying programme, the Mineral Resource model will be updated during the first quarter of 2013.

### MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing  
m (-x-)  
Diamond  
RC  
Blast-  
hole  
Other Comments  
Mongbwalu  
Measured  
—  
—  
—  
—  
—  
Indicated  
50 x 25  
—  
—  
—  
Inferred  
100 x 100  
—  
—  
—  
Grade/Ore control  
—  
—  
—  
—  
—  
Inclusive Mineral Resource  
as at 31 December 2012  
Tonnes  
million  
Grade  
g/t  
Contained gold  
Mongbwalu  
Category  
Tonnes                      Moz  
Underground  
Measured  
—  
—  
—  
—  
Indicated  
4.20  
7.63  
32.10  
1.03

Inferred

4.40

7.25

31.89

1.03

Mongbwalu

Total

8.60

7.44

63.99

2.06

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**62**

}

Exclusive Mineral Resource  
as at 31 December 2012

Tonnes  
million

Grade  
g/t

Contained gold  
Mongbwalu

Category

Tonnes                      Moz

Measured

–

–

–

–

Indicated

4.20

7.63

32.10

1.03

Inferred

4.40

7.25

31.89

1.03

Mongbwalu

Total

8.60

7.44

63.99

2.06

The Mongbwalu Mineral Resource is reported at a cut-off grade of 2.8g/t Au. The mineralisation has been classified into Inferred and

Indicated Mineral Resource and these represent a drill-hole spacing of 100m x 100m and 25m x 50m respectively. The Exclusive and

Inclusive Mineral Resource numbers are identical due to the absence of an Ore Reserve.

Mineral Resource below infrastructure

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Mongbwalu

Category

Tonnes Moz

Measured

–

–

–

–

Indicated

4.20

7.63

32.10

1.03

Inferred

4.40

7.25

31.89

1.03

Mongbwalu

Total

8.60

7.44

63.99

2.06

COMPETENT PERSON

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Vasu Govindsammy

SACNASP

400086/04

16 years

Mongbwalu

0

5

10

15

20

25

0

1

2

3

4

5

6

7

8

9

10

11

12

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average grade

above cut-off (g/t)

Cut-off grade (g/t)

16

14

12

10

8

6

4

2

0

Tonnes above cut-off

Ave grade above cut-off

Mongbwalu

Mineral Resource reconciliation: 2011 to 2012

2.06

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.00

2.06

Ounces

(millions)

2.06

2.05

2.04

2.03

2.02

2011

Deple-

tion

Gold

price

Cost

Explo-

ration

Metho-

dology

Other

Acquisition/

Disposal

2012

{

**63**

CONTINENTAL AFRICA

## COUNTRY OVERVIEW

AngloGold Ashanti has two mines in Ghana: Obuasi, which has both surface and underground operations and Iduapriem, an open pit mine. Obuasi and Iduapriem are both wholly owned by AngloGold Ashanti. Obuasi is located in the Ashanti region of southern Ghana, approximately 80km south of Kumasi. It is primarily an underground mine operating at depths of up to 1,500m with a continuous history of mining dating back to the 1890s. Iduapriem is located in western Ghana, some 85km from the coast and is currently an open pit operation, although the options to mine underground may be considered in the future.

## MINERAL RESOURCE ESTIMATION

The underground Mineral Resource block models at Obuasi are estimated within the delineated mineralised ore zones using geostatistical techniques. The geological interpretation is based on diamond drill and cross-cut sampling information. Estimates are based on Ordinary Kriging of 20m x 5m x 15m blocks, which approximate the minimum selective mining unit (SMU) used at the mine. Open pit mining commenced at the Sibi area of Obuasi in 2012. The open pit Mineral Resource at both Obuasi and Iduapriem was estimated by geostatistical techniques within 3D wireframe models of the mineralisation. These models are based on geological information and cut-off boundaries defined by sampling results. Geological interpretation is based on trench and reverse circulation (RC) drilling and/or diamond drilling (DD) data. Estimation is by Ordinary Kriging of 30m x 30m x 10m blocks.

Surface stockpiles volumes are based on surveys and grades based on historical sampling. Tailings are part of the Mineral Resource with tonnes and grades based on combinations of 3D block models of some dams and historical metallurgical discharge data.

## ORE RESERVE ESTIMATION

The 3D Mineral Resource models are used as the basis for the Ore Reserve. An ore envelope is developed using the Mineral Resource block model, geological information and the relevant cut-off grade, which is then used for mine design. An appropriate mining layout is designed that incorporates mining extraction losses and dilution factors.

## GHANA

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

64

}



## LOCATION

Iduapriem is located in the western region of Ghana, some 85km north of the coastal city of Takoradi and approximately 8km southwest of the town of Tarkwa. Iduapriem is an open pit mine which commenced mining operations in 1992. Its processing facilities include a 4.3 million tonnes per annum (Mtpa) carbon-in-pulp (CIP) plant with a gravity circuit. The gravity feed recovers about 30% of the gold and the CIP plant recovers the remainder.

Iduapriem is bordered to the north by Goldfields (Ghana) Ltd's Tarkwa Mine and to the east by Ghana Manganese Company (GMC) – a manganese mine which has existed since the 1920s.

## GEOLOGY

Iduapriem is located within the Tarkwaian Group of rocks that form part of the West Africa Craton which is covered to a large extent by metavolcanics and metasediments of the Birimian Supergroup. In Ghana, the Birimian terrane consists of northeast/southwest trending volcanic belts separated by sedimentary basins. The Tarkwaian Group was deposited in these basins as shallow water deltaic sediments. The gold mineralisation at Iduapriem is hosted in the Proterozoic Banket Series conglomerates that were developed within these sediments.

The Banket Reef Zone (BRZ) comprises a sequence of individual beds of quartz pebble conglomerate, breccia conglomerate, quartzite and grit. The outcropping Banket Series in the mine lease area forms prominent curved ridges that extend southwards from Tarkwa, westwards through Iduapriem and northwards towards Teberebie.

All known gold mineralisation within the Banket Series is associated with the conglomerates and is found within the matrix that binds the pebbles together. The gold content is a function of the size and amount of packing of the quartz pebbles within the conglomeratic units. At Iduapriem, the gold mineralisation is unrelated to metamorphic or hydrothermal alteration events and the gold is coarse grained, particulate and free milling. Mineralogical studies indicate that the grain size of native gold particles ranges between 2 and 500µm and averages 130µm. Sulphide mineralisation is present only at trace levels and is not associated with the gold.

## PROJECTS

A pre-feasibility study has been initiated to investigate the potential to expand current production.

## MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Iduapriem

Measured

50 x 50,  
50 x 75,  
100 x 50

—

—

—

Indicated

50 x 75,  
50 x 100,  
100 x 75

—

—

—

Inferred

20 x 20,  
100 x 100

—

—

Old leach pads drilled approximately

20 x 20m

Grade/Ore control 10 x 12,

10 x 15

—

—

—

—

IDUAPRIEM

{

**65**

CONTINENTAL AFRICA

IDUAPRIEM

**continued**

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Iduapriem

Category

Tonnes

Moz

Ajopa

Measured

7.44

1.97

14.67

0.47

Indicated

0.71

1.02

0.73

0.02

Inferred

1.70

1.32

2.25

0.07

Total

9.85

1.79

17.65

0.57

Block 3W

Measured

—

—

—

—

Indicated

0.00

1.85

0.00

0.00

Inferred

1.74

1.12

1.95

0.06

Total

1.74

1.12  
 1.95  
 0.06  
 Block 5  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 0.00  
 1.04  
 0.00  
 0.00  
 Inferred  
 1.48  
 1.09  
 1.61  
 0.05  
 Total  
 1.48  
 1.09  
 1.61  
 0.05  
 Blocks 7 and 8  
 Measured  
 9.55  
 1.36  
 13.03  
 0.42  
 Indicated  
 48.15  
 1.66  
 79.80  
 2.57  
 Inferred  
 47.16  
 1.61  
 75.93  
 2.44  
 Total  
 104.86  
 1.61  
 168.76  
 5.43  
 Stockpile (Full Grade Ore)  
 Measured  
 6.65  
 0.83  
 5.53  
 0.18

Indicated

—  
—  
—  
—

Inferred

—  
—  
—  
—

Total

6.65

0.83

5.53

0.18

Stockpile (Other)

Measured

—  
—  
—  
—

Indicated

—  
—  
—  
—

Inferred

21.00

0.49

10.35

0.33

Total

21.00

0.49

10.35

0.33

Iduapriem

Total

145.59

1.41

205.86

6.62

Exclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Iduapriem

Category

Tonnes	Moz
Measured	
1.08	
1.67	
1.80	
0.06	
Indicated	
24.01	
1.64	
39.34	
1.26	
Inferred	
73.08	
1.26	
92.09	
2.96	
Iduapriem	
Total	
98.17	
1.36	
133.23	
4.28	

The Exclusive Mineral Resource listed above is derived mainly from the following:

- Inferred Mineral Resource located within the optimised Ore Reserve pit shell; and
- Mineral Resource located outside the Ore Reserve shell but within the optimised Mineral Resource shell. This consists mainly of down-dip extensions of the ore zones, most of which may be mineable at a higher gold price.

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**66**

}

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Iduapriem

Category

Tonnes Moz

Ajopa

Proved

6.45

1.88

12.12

0.39

Probable

0.71

0.93

0.66

0.02

Total

7.16

1.78

12.78

0.41

Blocks 7 and 8

Proved

9.46

1.29

12.23

0.39

Probable

24.15

1.58

38.07

1.22

Total

33.61

1.50

50.30

1.62

Stockpile (Full Grade Ore)

Proved

6.65

0.83

5.53

0.18

Probable

—

–  
 –  
 –  
 Total  
 6.65  
 0.83  
 5.53  
 0.18  
 Iduapriem  
 Total  
 47.42  
 1.45  
 68.60  
 2.21  
 Ore Reserve modifying factors  
 % RRF  
 % MRF  
 as at  
 31 December 2012  
 Iduapriem  
 Gold  
 price  
 \$/oz  
 Cut-off  
 value g/t  
 Au  
 Dilution  
 %  
 Dilution  
 g/t  
 (based  
 on  
 tonnes)  
 % RRF  
 (based  
 on g/t)  
 (based  
 on  
 tonnes)  
 % MRF  
 (based  
 on g/t)  
 MCF  
 %  
 MetRF  
 %  
 Ajopa  
 1,470\*  
 –  
 –  
 –



96.0	
95.0	
100.0	
94.0	
100.0	
95.0	
Blocks 7 and 8	
1,300	
-	
-	
-	
96.0	
95.0	
100.0	
94.0	
100.0	
95.0	
<i>* Feasibility study \$1,100/oz whittle shell, redesign northern end \$1,470/oz whittle shell</i>	
Inferred Mineral Resource in business plan	
as at 31 December 2012	
Tonnes	
million	
Grade	
g/t	
Contained gold	
Iduapriem	
Tonnes	Moz
Comment	
Ajopa	
1.66	
1.27	
2.12	
0.07	
Grade control drilling will be done on every bench	
(18m) for better ore definition	
Blocks 7 and 8	
2.96	
1.42	
4.21	
0.14	
Grade control drilling will be done on every bench	
(18m) for better ore definition	
Total	
4.62	
1.37	
6.33	
0.21	
Iduapriem	
Mineral Resource reconciliation: 2011 to 2012	
6.59	
-0.22	

0.65  
-0.13  
0.00  
-0.30  
0.03  
0.00  
6.62  
Ounces (millions)

7.1  
7.0  
6.9  
6.8  
6.7  
6.6  
6.5  
6.4  
6.3  
6.2

2011  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012

Iduapriem  
Ore Reserve reconciliation: 2011 to 2012

2.55  
-0.22  
-0.27  
0.13  
0.00  
0.02  
0.00  
0.00  
2.21

Ounces (millions)  
2.6  
2.5  
2.4  
2.3  
2.2  
2.1  
2.0

2011  
Depletion Model  
change  
Change  
in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Other  
Acquisition/  
Disposal

2012

{  
**67**

CONTINENTAL AFRICA

The Inferred Mineral Resource within the Ore Reserve design is 8% of the total ore scheduled (60.32Mt) and exists as pockets of Inferred Mineral Resource material located within the models of all the deposits.

COMPETENT PERSONS

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Kwasi Osei

MAusIMM

112 723

18 years

Ore Reserve

Stephen Asante Yamoah

MAusIMM

304 095

8 years

IDUAPRIEM

**continued**

Iduapriem

0

20

40

60

80

100

120

0.00

0.25

0.50

0.75

1.25

1.00

1.50

1.75

2.25

2.00

2.50

Grade tonnage curve – Surface (metric)

Tonnes above

cut-off (millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

3.0

2.8

2.6

2.4

2.2

2.0

1.8

1.6

1.4

1.2

Tonnes above cut-off

Ave grade above cut-off

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**68**

}

## LOCATION

Obuasi mine is located in the Ashanti Region of Ghana some 320km northwest of the capital Accra. The mine is situated in a largely forested region, with surrounding land occupied by subsistence farming. The mining concession covers an area of 47.5ha. Eighty communities lie within a 30km radius of the mine.

## GEOLOGY

The mine is located within the north-easterly striking Ashanti volcanic belt, one of the most significant Proterozoic gold belts discovered

to date. The Ashanti belt predominantly comprises sedimentary and mafic volcanic rocks, and is the most prominent of the five Birimian

Supergroup gold belts found in Ghana. The belt is a 300km wrench fault system that propagated from Dixcove in the southwest to

beyond Konongo in the northeast.

The Birimian was deformed, metamorphosed and intruded by syn- and post-tectonic granitoids during the Eburnean tectonothermal

event around two billion years ago. Folding trends are dominantly north-northeast to northeast. Elongate syn-Birimian basins

developed between the ridges of the Birimian system and these were filled with the Tarkwaian molasse sediments made up primarily

of conglomerates, quartzose and arkosic sandstones and minor shale units. Major faulting has taken place along the same trends.

Gold mineralisation is associated with, and occurs within, graphite-chlorite-sericite fault zones. These shear zones are commonly

associated with pervasive silica, carbonate and sulphide hydrothermal alteration and occur in tightly folded Lower Birimian schists,

phyllites meta-greywackes, and tuffs, along the eastern limb of the Kumasi anticlinorium.

Mineralised shears are found in close proximity to the 'contact' with harder metamorphosed and metasomatically altered intermediate

to basic upper Birimian volcanics. The competency contrast between the harder metavolcanic rocks to the east and the more

argillaceous rocks to the west is thought to have formed a plane of weakness. During crustal movement, this plane became a zone of

shearing and thrusting coeval with the compressional phases.

## OBUASI

{

**69**

## CONTINENTAL AFRICA

The Lower Birimian metasediments and metavolcanics are characterised and defined by argillaceous and fine to intermediate arenaceous rocks. These rocks are represented by phyllites, meta siltstones, meta greywackes, tuffaceous sediments, ash tuffs and hornstones in order of decreasing importance. Adjacent to the shear zones, these rocks are replaced by sericitic, chloritic and carbonaceous schists, which may be graphitic in places. Multiple lodes are a common feature in the mine.

**EXPLORATION**

**Surface exploration**

Surface exploration drilling continued in the Obuasi concession to probe the down-dip extension of the Rusty Monkey mineralisation

and improve the confidence in the Mineral Resource at Anyankyirem. Nineteen holes with a total of 7,030m were completed.

The drilling outcomes indicated lack of significant mineralisation at Rusty Monkey. Remodelling of Anyankyirem with current drill-hole intersections is ongoing.

**Underground exploration**

Underground exploration drilling during 2012 continued to focus on the Brown Sub Vertical Shaft project area.

Drilling was to probe

the down-dip extensions of quartz and sulphide mineralisation hosted within Block 10 and Mineral Resource upgrade below 24 Level

at Sansu3. Thirty one holes with a total of 4,803m were completed. Significant intersections confirm the expected grades.

**PROJECTS**

**Mining method**

The mining method at Obuasi is being changed from transverse and longitudinal open stoping to longitudinal retreat mining in mining

blocks where it is suitable to do so. The major advantage of this method is the up to 50% reduction in waste development; reducing

capital expenditure along with additional reef drive exposure.

**Pompora reclamation project**

The project to construct a reclamation station and pipeline to enable the reclamation of Kokoteasua and Pompora tailings storage

facilities will commence in 2016.

**MINERAL RESOURCE**

Details of average drill-hole spacing and type in relation to Mineral Resource classification

**Type of drilling**

**Mine/Project**

**Category**

**Spacing**

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Obuasi

Measured

20 x 20,

40 x 20

X	X	-	X
---	---	---	---

-

Indicated

30 x 30,  
50 x 50,  
60 x 60

X            X            –            X

–

Inferred

90 x 90,  
120 x 120

X            X            –

–

–

Grade/Ore control    10 x 10

X            X            X            X    Channel sampling of cross cuts and  
definition drilling.

OBUASI

**continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**70**

}



Inclusive Mineral Resource  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Obuasi

Category

Tonnes

Moz

Anyankyirem

Measured

0.40

2.41

0.97

0.03

Indicated

2.86

2.60

7.44

0.24

Inferred

0.78

2.49

1.94

0.06

Total

4.04

2.56

10.35

0.33

Anyinam

Measured

0.00

2.35

0.00

0.00

Indicated

0.04

3.20

0.14

0.00

Inferred

0.12

3.74

0.44

0.01

Total

0.16

3.59

0.58

0.02  
Gyabunsu-Sibi  
Measured  
—  
—  
—  
—  
Indicated  
0.16  
4.82  
0.78  
0.03  
Inferred  
0.21  
4.76  
0.98  
0.03  
Total  
0.37  
4.78  
1.76  
0.06  
Tailings (Kokoteasua)  
Measured  
3.22  
1.97  
6.33  
0.20  
Indicated  
1.65  
1.96  
3.24  
0.10  
Inferred  
—  
—  
—  
—  
Total  
4.87  
1.96  
9.57  
0.31  
Tailings (Pompora)  
Measured  
—  
—  
—  
—  
Indicated  
—

—  
—  
—  
Inferred  
33.61  
1.57  
52.89  
1.70  
Total  
33.61  
1.57  
52.89  
1.70  
Other Surface Resources  
Measured  
—  
—  
—  
—  
Indicated  
1.24  
2.50  
3.09  
0.10  
Inferred  
—  
—  
—  
—  
Total  
1.24  
2.50  
3.09  
0.10  
Upper Mine  
Measured  
2.31  
10.50  
24.26  
0.78  
Indicated  
2.85  
8.30  
23.64  
0.76  
Inferred  
1.73  
7.83  
13.54  
0.44  
Total

6.89  
8.92  
61.44  
1.98  
Above 50 Base  
Measured  
31.20  
6.77  
211.10  
6.79  
Indicated  
41.48  
5.49  
227.60  
7.32  
Inferred  
27.15  
5.54  
150.49  
4.84  
Total  
99.83  
5.90  
589.19  
18.94  
Adansi 50-60  
Measured  
2.16  
5.28  
11.38  
0.37  
Indicated  
1.83  
4.46  
8.15  
0.26  
Inferred  
6.54  
5.03  
32.89  
1.06  
Total  
10.53  
4.98  
52.42  
1.69  
Stockpile (Heap Leach)  
Measured  
1.12  
0.58  
0.65

0.02  
Indicated  
—  
—  
—  
—  
Inferred  
—  
—  
—  
—  
Total  
1.12  
0.58  
0.65  
0.02  
Stockpile (Surface Oxides)  
Measured  
0.03  
1.72  
0.05  
0.00  
Indicated  
—  
—  
—  
—  
Inferred  
—  
—  
—  
—  
Total  
0.03  
1.72  
0.05  
0.00  
{  
**71**  
CONTINENTAL AFRICA

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Obuasi

Category

Tonnes

Moz

KMS 50-60

Measured

0.63

19.13

12.14

0.39

Indicated

2.88

16.28

46.83

1.51

Inferred

7.16

12.06

86.37

2.78

Total

10.67

13.62

145.34

4.67

Stockpile (Surface Sulphides)

Measured

0.13

2.58

0.32

0.01

Indicated

—

—

—

—

Inferred

—

—

—

—

Total

0.13

2.58

0.32

0.01

Obuasi  
 Total  
 173.48  
 5.35  
 927.65  
 29.82  
 Exclusive Mineral Resource  
 as at 31 December 2012

Tonnes  
 million  
 Grade  
 g/t  
 Contained gold

Obuasi	
Category	
Tonnes	Moz
Measured	

20.56	
7.45	
153.16	
4.92	
Indicated	
24.49	
5.33	
130.49	
4.20	

Inferred	
77.27	
4.37	
337.57	
10.85	

Obuasi	
Total	
122.32	
5.08	
621.22	
19.97	

The Obuasi Exclusive Mineral Resource is made up of Mineral Resource from underground, open pit and tailings. The bulk of the

Exclusive Mineral Resource is from underground. The Exclusive Mineral Resource makes up 67% of the total Mineral Resource at Obuasi.

Mineral Resource below infrastructure  
 as at 31 December 2012

Tonnes  
 million  
 Grade  
 g/t  
 Contained gold

Obuasi  
 Category

Tonnes	Moz
Measured	
2.92	
8.31	
24.24	
0.78	
Indicated	
4.46	
11.69	
52.12	
1.68	
Inferred	
13.82	
8.79	
121.42	
3.90	
Obuasi	
Total	
21.20	
9.33	
197.78	
6.36	
<b>OBUASI</b>	
<b>continued</b>	
Inclusive Mineral Resource continued	
Obuasi	
Mineral Resource reconciliation: 2011 to 2012	
31.86	
-0.32	
0.00	
0.00	
0.04	
-0.00	
-1.75	
0.00	
29.82	
Ounces (millions)	
32.0	
31.5	
31.0	
30.5	
30.0	
29.5	
29.0	
2011	
Deple-	
tion	
Gold	
price	
Cost	
Explo-	



ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal

2012

Obuasi

Ore Reserve reconciliation: 2011 to 2012

9.37

-0.46

-0.45

-0.04

0.00

0.00

0.09

0.00

8.52

Ounces (millions)

9.5

9.3

9.1

8.9

8.7

8.5

8.3

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/  
Disposal

2012

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**72**

}

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Obuasi

Category

Tonnes Moz

Tailings (Kokoteasua)

Proved

1.75

1.96

3.45

0.11

Probable

3.12

1.96

6.12

0.20

Total

4.87

1.96

9.57

0.31

Tailings (Pompora)

Proved

–

–

–

–

Probable

1.13

2.10

2.37

0.08

Total

1.13

2.10

2.37

0.08

Other Surface Resources

Proved

–

–

–

–

Probable

0.11

4.28  
0.49  
0.02  
Total  
0.11  
4.28  
0.49  
0.02  
Above 50 Base  
Proved  
15.99  
6.13  
98.00  
3.15  
Probable  
20.89  
5.35  
111.78  
3.59  
Total  
36.88  
5.69  
209.78  
6.74  
KMS 50-60  
Proved  
0.57  
14.67  
8.34  
0.27  
Probable  
2.66  
12.92  
34.35  
1.10  
Total  
3.23  
13.23  
42.69  
1.37  
Obuasi  
Total  
46.23  
5.73  
264.90  
8.52  
Ore Reserve modifying factors  
% RRF  
% MRF  
as at  
31 December 2012

Obuasi  
 Gold  
 price  
 \$/oz  
 Cut-off  
 value g/t  
 Au  
 Dilution  
 %  
 Dilution  
 g/t  
 (based  
 on  
 tonnes)  
 % RRF  
 (based  
 on g/t)  
 (based  
 on  
 tonnes)  
 % MRF  
 (based  
 on g/t)  
 MCF  
 %  
 MetRF  
 %  
 Above 50 Base  
 1,300  
 4.00\*  
 12.0  
 –  
 –  
 –  
 97.5;  
 \*\* 95.0  
 –  
 95.0  
 85.4  
 KMS 50-60  
 1,300  
 4.00\*  
 12.0  
 –  
 –  
 –  
 97.5  
 –  
 95.0  
 85.4

Edgar Filing: ANGLOGOLD ASHANTI LTD - Form 6-K

\* Fully costed cut-off grade = 4.00g/t, Incremental cut-off grades for Stopping = 2.20g/t and Development = 1.50g/t were applied as applicable

\*\* Other mining methods = 97.5%; sub-level caving = 95.0%

Inferred Mineral Resource in business plan  
as at 31 December 2012

Tonnes  
million  
Grade  
g/t  
Contained gold  
Obuasi  
Tonnes           Moz

Comment  
Above 50 Base

2.36  
5.58  
13.14  
0.42

—  
KMS 50-60

0.30  
13.47  
4.08  
0.13

—  
Total

2.66  
6.48  
17.22  
0.55

Ore Reserve below infrastructure  
as at 31 December 2012

Tonnes  
million  
Grade  
g/t  
Contained gold  
Obuasi  
Category  
Tonnes           Moz

Proved  
0.57  
14.67  
8.34  
0.27

Probable  
2.66  
12.92  
34.35  
1.10

Obuasi

Total

3.23

13.23

42.69

1.37

{

**73**

CONTINENTAL AFRICA

COMPETENT PERSONS

Category

Name

Professional  
organisation

Registration  
number

Relevant  
experience

Mineral Resource

Clement Asamoah-Owusu

MAusIMM

210 145

28 years

Ore Reserve

Christian Boafo

MAusIMM

312 532

15 years

OBUASI

**continued**

Obuasi

0.0

1.0

2.0

3.0

4.0

5.0

0.00 0.25 0.50 0.75 1.00 1.25 1.50 1.75 2.00 2.25 2.50 2.75 3.00

Grade tonnage curve – Surface (metric)

Tonnes above

cut-off (millions)

Average

grade above

cut-off (g/t)

Cut-off grade (g/t)

5.5

5.0

4.5

4.0

3.5

3.0

2.5

2.0

Tonnes above cut-off

Ave grade above cut-off

Obuasi

0

20

40

60

80  
100  
120  
140  
0  
2  
4  
6  
8  
10  
12  
14  
16  
18  
20

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average grade

above cut-off (g/t)

Cut-off grade (g/t)

35  
30  
25  
20  
15  
10  
5  
0

Tonnes above cut-off

Ave grade above cut-off

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**74**

}



## GUINEA

### COUNTRY OVERVIEW

The Siguiri mine is AngloGold Ashanti's only operation in the Republic of Guinea. The mine is 85% owned by AngloGold Ashanti and 15% by the government of Guinea. The mine is a conventional open pit operation situated in the Siguiri district in the northeast of Guinea. It lies about 850km from the capital city of Conakry and 109km from the border with Mali. Gold-bearing ore is mined from several pits and sent to a CIP plant.

### MINERAL RESOURCE ESTIMATION

Mineral Resource definition drilling is done with air core (AC), reverse circulation (RC) and diamond drilling (DD). All available geological drill-hole information is validated for usage in the models and the local geology of the deposit is used to classify the drill-hole information into appropriate estimation domains. Detailed statistical analyses are conducted on each of these domains and this allows for the identification of high-grade outlier values. If these values are anomalous to the general population characteristics they may be cut, ie. reduced back to the appropriate upper limit of the population. The Mineral Resource model is estimated using Ordinary Kriging into a 3D block model. Geological interpretation is based on geological drill-hole data. The dimensions of these Mineral Resource blocks range from 10m x 10m x 2.5m to 50m x 25m x 6m block sizes, guided by the shape of the deposit and the drilling density. The Mineral Resource is declared within an optimised limiting Mineral Resource pit shell using a gold price, for example \$2,000/oz in 2012.

### ORE RESERVE ESTIMATION

The Mineral Resource models for each pit are depleted to the current mined out surface. Costs are assigned on a pit-by-pit basis, reflecting the existing cost structure of the operation. The relevant dilution and ore loss factors are applied and pit optimisation is then performed. The relevant modifying factors such as metallurgical recoveries, geotechnical parameters, cut-off grades and economics are applied to generate the final Ore Reserve.

{

75

CONTINENTAL AFRICA

## SIGUIRI

### LOCATION

Siguiri is located in the Siguiri district of north-eastern Guinea, west Africa, and is about 850km from the capital city of Conakry.

The Société Ashanti Goldfields de Guinée (SAG) mining concession consists of four blocks totalling 1,495km<sup>2</sup>. Siguiri is a multi-pit

oxide gold mining operation. All ore and waste is mined by a mining contractor in a conventional open pit mining operation. Processing

of the ore is done by a CIP plant.

### GEOLOGY

The gold mineralisation at Siguiri occurs in Paleoproterozoic Birimian rocks consisting of turbidites and lesser volcanoclastic sequences.

It is situated in an arcuate zone of a larger anastomosing shear zone system. These zones form part of the northerly trending,

continental scale shear zone system that transects the West African Craton and bordering areas.

There are two types of oxide mineralisation in the Siguiri basin:

- eluvial or alluvial hosted laterite mineralisation; and

- primary quartz vein and associated shear hosted mineralisation.

The laterite mineralisation occurs as alluvial lateritic gravel adjacent to and immediately above the *in-situ* vein related mineralisation.

The vein related mineralisation is hosted in metasediments and areas of economic gold mineralisation are formed where these veins

are spaced closely together.

The main vein related mineralisation at Siguiri is structurally controlled and associated with a major, east-northeast trending and steep

south dipping sheeted quartz vein sets that generally occur in the coarser, brittle siltstones and sandstones lithologies.

The regional

development and consistent orientation of this main vein set, irrespective of the nature of wall rocks or wall-rock structures, indicates

the control of these veins by regional strains.

A deep oxidation (weathering) profile is developed in the region, varying between 50m to 150m. The mineralised saprolite provides the

main oxide feedstock for the CIP plant. The previous practice at Siguiri was to blend the laterite and saprolite ore types and to process

these using the heap-leach method. With the percentage of available laterite ore decreasing, a CIP plant was brought on stream during

2005 to treat predominantly saprolite oxide ore. With continued exploration into deeper fresh rock extensions of the ore deposit, new

treatment options are again under consideration.

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

76

}

## EXPLORATION

Exploration at Siguiri is focused on finding new oxide Mineral Resources in the saprolite, and upgrading the confidence in the existing

Mineral Resource. This is achieved using geophysics, soil geochemistry and drill-hole sampling in the context of the regional and pit-scale geological models. There is an ongoing focus to investigate and evaluate the potential mineralisation in fresh rock so that

all opportunities are explored. In 2012, 33,975m of reconnaissance aircore (AC) drilling was completed to test soil sampling and

geophysical targets, 10,029m of RC and DD drilling was done on fresh rock exploration, while infill RC drilling amounted to 85,515m.

A total of 15,388m of sterilisation drilling was completed for waste dump and tailings storage facility extensions.

The focus of oxide drilling in 2012 was twofold. Firstly an accelerated capital expenditure was approved to fast-track the infill drilling

required to upgrade Inferred Mineral Resource to Indicated Mineral Resource in the main pit areas. This infill drilling was completed in the

Eureka, Tubani, Kalamagna-Kozan, Soloni and Sokunu areas. The second focus of oxide drilling was to continue the reconnaissance

drilling of the identified exploration target areas. Drilling was concentrated on a number of smaller targets in close proximity to the

current pit areas as well as two larger drilling programmes in new areas at Sintroko South and greater Silakoro.

Gravity and Induced

Polarisation (IP) geophysical surveys were conducted over the greater Silakoro area as well as over the far southern portion of the

Block 1 mining lease. The results of the surveys in the southern portion of Block 1 mining lease will be used to guide the 2013 targeting

and drilling exercises. The geophysical surveys will be extended to the northwest of the Seguélen deposit in 2013.

## PROJECTS

An asset strategy optimisation study was initiated during 2012 as a progression of the scoping study work concluded in 2010 and

2011 to assess the strategic options for Siguiri. The results of this study will be used to refine the Siguiri brownfields exploration plan

for 2013. While the focus will remain on exploring for oxides, the proportion of expenditure on drilling to test the potential of the fresh

rock mineralisation below the significant oxide deposits is likely to increase.

The emphasis on refining the current geological and structural understanding for the Siguiri complex progressed well during 2012, with

significant geological research studies, which form the basis of this project, producing their first models. This project will continue in

2013 and is expected to provide several new targets for further exploration.

## MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Siguiri

Measured

-

-

-

-

-

Indicated

20 x 40,

25 x 25,

50 x 25

-

X -

-

-

Inferred

20 x 40,

50 x 25,

50 x 50

X X -

-

-

Grade/Ore control 5 x 10,

5 x 12,

10 x 5,

10 x 10

-

X -

-

-

{

77

CONTINENTAL AFRICA

SIGUIRI

**continued**

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Siguiri

Category

Tonnes

Moz

Bidini

Measured

–

–

–

–

Indicated

4.54

1.09

4.93

0.16

Inferred

5.95

1.04

6.17

0.20

Total

10.49

1.06

11.10

0.36

Eureka East

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

1.96

0.83

1.63

0.05

Total

1.96

0.83  
1.63  
0.05  
Eureka North  
Measured  
—  
—  
—  
—  
Indicated  
1.40  
0.82  
1.15  
0.04  
Inferred  
0.40  
0.80  
0.32  
0.01  
Total  
1.80  
0.82  
1.47  
0.05  
Foulata  
Measured  
—  
—  
—  
—  
Indicated  
—  
—  
—  
—  
Inferred  
3.81  
1.43  
5.45  
0.18  
Total  
3.81  
1.43  
5.45  
0.18  
Kalamagna  
Measured  
—  
—  
—  
—

Indicated

12.80

0.64

8.23

0.26

Inferred

1.69

0.67

1.14

0.04

Total

14.49

0.65

9.37

0.30

Kami

Measured

—

—

—

—

Indicated

6.11

0.65

3.97

0.13

Inferred

5.33

0.73

3.87

0.12

Total

11.44

0.68

7.84

0.25

Kosise

Measured

—

—

—

—

Indicated

4.38

0.77

3.36

0.11

Inferred

5.12

0.76

3.91

0.13  
Total  
9.50  
0.77  
7.27  
0.23  
Kozan North  
Measured  
—  
—  
—  
—  
Indicated  
9.70  
0.64  
6.17  
0.20  
Inferred  
1.23  
0.61  
0.75  
0.02  
Total  
10.93  
0.63  
6.92  
0.22  
Kozan South  
Measured  
—  
—  
—  
—  
Indicated  
11.36  
0.68  
7.71  
0.25  
Inferred  
0.10  
0.79  
0.08  
0.00  
Total  
11.46  
0.68  
7.79  
0.25  
Seguélien  
Measured  
9.05



0.71  
6.46  
0.21  
Indicated  
18.25  
0.89  
16.22  
0.52  
Inferred  
7.58  
0.98  
7.42  
0.24  
Total  
34.88  
0.86  
30.10  
0.97  
Sintroko South  
Measured  
—  
—  
—  
—  
Indicated  
3.79  
1.08  
4.11  
0.13  
Inferred  
0.25  
1.58  
0.39  
0.01  
Total  
4.04  
1.11  
4.50  
0.14  
**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**  
**78**  
}

Inclusive Mineral Resource continued  
as at 31 December 2012

Tonnes  
million

Grade  
g/t

Contained gold

Siguiri

Category

Tonnes                      Moz

Sokunu

Measured

—

—

—

—

Indicated

10.51

0.80

8.36

0.27

Inferred

2.63

0.78

2.05

0.07

Total

13.14

0.79

10.41

0.33

Soloni

Measured

—

—

—

—

Indicated

6.26

0.79

4.93

0.16

Inferred

4.79

0.73

3.49

0.11

Total

11.05

0.76

8.42

0.27  
Sorofe  
Measured  
—  
—  
—  
—  
Indicated  
4.75  
0.83  
3.95  
0.13  
Inferred  
2.48  
0.82  
2.04  
0.07  
Total  
7.23  
0.83  
5.99  
0.19  
Stockpile (Marginal Ore)  
Measured  
21.59  
0.49  
10.61  
0.34  
Indicated  
—  
—  
—  
—  
Inferred  
—  
—  
—  
—  
Total  
21.59  
0.49  
10.61  
0.34  
Stockpile (Full Grade Ore)  
Measured  
7.81  
0.91  
7.08  
0.23  
Indicated  
—

–  
 –  
 –  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 7.81  
 0.91  
 7.08  
 0.23  
 Stockpile (Spent Heap Leach)  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 31.95  
 0.54  
 17.29  
 0.56  
 Inferred  
 13.40  
 0.57  
 7.61  
 0.24  
 Total  
 45.35  
 0.55  
 24.90  
 0.80  
 Sigui  
 Total  
 220.96  
 0.73  
 160.83  
 5.17  
 Exclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Sigui  
 Category  
 Tonnes            Moz  
 Measured

1.03  
0.52  
0.54  
0.02  
Indicated  
55.92  
0.73  
40.74  
1.31  
Inferred  
56.71  
0.82  
46.32  
1.49  
Siguiri  
Total  
113.66  
0.77  
87.60  
2.82

The Exclusive Mineral Resource at Siguiri includes:

- Indicated Mineral Resource that is economic at the Mineral Resource gold price of \$2,000/oz, but not at the Ore Reserve price.  
The Indicated material forms 47% of the Exclusive Mineral Resource.
- Inferred Mineral Resource not included in the current pit designs. Selected parts of these areas will be included in infill drilling programmes during 2013. This Inferred Mineral Resource forms 49% of the Exclusive Mineral Resource.
- Inferred Mineral Resource located within the Ore Reserve optimised pit shell. This material forms 4% of the Exclusive Mineral Resource.  
There are portions of Indicated Mineral Resource associated with all the major pits as a result of the material being sub-economic under current Ore Reserve optimisation conditions. The Inferred Mineral Resource material associated with the Exclusive Mineral Resource is not currently supported by sufficient geological information to be classified as Indicated or Measured Mineral Resource and is therefore not incorporated in the Ore Reserve.

{

**79**

CONTINENTAL AFRICA

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Siguiri

Category

Tonnes

Moz

Kalamagna

Proved

–

–

–

–

Probable

7.62

0.59

4.47

0.14

Total

7.62

0.59

4.47

0.14

Kosise

Proved

–

–

–

–

Probable

1.17

0.84

0.98

0.03

Total

1.17

0.84

0.98

0.03

Kozan North

Proved

–

–

–

–

Probable

1.92

0.64  
1.23  
0.04  
Total  
1.92  
0.64  
1.23  
0.04  
Kozan South  
Proved  
—  
—  
—  
—  
Probable  
5.98  
0.65  
3.89  
0.13  
Total  
5.98  
0.65  
3.89  
0.13  
Seguélién  
Proved  
7.20  
0.73  
5.23  
0.17  
Probable  
10.01  
1.02  
10.24  
0.33  
Total  
17.21  
0.90  
15.47  
0.50  
Sokunu  
Proved  
—  
—  
—  
—  
Probable  
4.41  
0.81  
3.56  
0.11

Total

4.41

0.81

3.56

0.11

Soloni

Proved

—

—

—

—

Probable

2.54

0.95

2.43

0.08

Total

2.54

0.95

2.43

0.08

Sorofe

Proved

—

—

—

—

Probable

1.99

0.74

1.47

0.05

Total

1.99

0.74

1.47

0.05

Stockpile (Marginal Ore)

Proved

21.59

0.49

10.61

0.34

Probable

—

—

—

—

Total

21.59

0.49



10.61  
 0.34  
 Stockpile (Full Grade Ore)  
 Proved  
 7.81  
 0.91  
 7.08  
 0.23  
 Probable  
 -  
 -  
 -  
 -

Total  
 7.81  
 0.91  
 7.08  
 0.23

**SIGUIRI**  
**continued**

Siguiri  
 Mineral Resource reconciliation: 2011 to 2012

5.18  
 -0.24  
 0.88  
 -0.67  
 0.09  
 -0.11  
 0.04  
 0.00  
 5.17

Ounces (millions)  
 6.0  
 5.8  
 5.6  
 5.4  
 5.2  
 5.0  
 4.8

2011  
 Deple-  
 tion  
 Gold  
 price  
 Cost  
 Explo-  
 ration  
 Metho-  
 dology  
 Other  
 Acquisition/

Disposal

2012

Siguiri

Ore Reserve reconciliation: 2011 to 2012

2.31

-0.20

0.06

0.01

0.00

0.02

0.01

0.00

2.20

Ounces (millions)

2.4

2.3

2.2

2.1

2.0

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**80**

}

Ore Reserve continued  
as at 31 December 2012  
Tonnes  
million  
Grade  
g/t  
Contained gold  
Sigui  
Category  
Tonnes Moz  
Stockpile (Spent Heap Leach)  
Proved  
—  
—  
—  
—  
Probable  
31.95  
0.54  
17.29  
0.56  
Total  
31.95  
0.54  
17.29  
0.56  
Sigui  
Total  
104.19  
0.66  
68.48  
2.20  
Ore Reserve modifying factors  
% RRF  
% MRF  
as at  
31 December 2012  
Sigui  
Gold  
price  
\$/oz  
Cut-off  
value g/t  
Au  
Dilution  
%  
Dilution  
g/t  
(based  
on  
tonnes)

% RRF  
 (based  
 on g/t)  
 (based  
 on  
 tonnes)

% MRF  
 (based  
 on g/t)

MCF

%

MetRF

%

Bidini

1,300

0.31

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Eureka East

1,600

0.31

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Eureka North

1,600

0.31

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Foulata

1,600

0.87

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Kalamagna

1,300

0.31

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Kami

1,500

0.31

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Kosise

1,500

0.31

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Kozan North

1,350

0.31

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Kozan South

1,375

0.31

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Seguélen

1,500

0.34

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Sintroko South

1,500

0.40

—

—

100.0

100.0

100.0

100.0

100.0

90.0\*

Sokunu

1,350

0.36

—

—

100.0

95.0

100.0

100.0

100.0

90.0\*

Soloni

1,500

0.31

—

—

100.0

100.0

100.0

100.0  
100.0  
90.0\*  
Sorofe  
1,350  
0.31  
—  
—  
100.0  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0\*  
Stockpile  
(Full Grade Ore)  
—  
—  
—  
—  
100.0  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0\*  
Stockpile  
(Marginal Ore)  
—  
—  
—  
—  
100.0  
100.0  
100.0  
100.0  
100.0  
88.0  
Stockpile (Spent  
Heap Leach)  
1,300  
0.31  
—  
—  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0

\* *Transitional Marginal Ore = 55.0%; Transitional Ore = 75.0%; Marginal Ore = 80%; Oxide Full Grade Ore = 90.0%*

{

**81**

CONTINENTAL AFRICA



Inferred Mineral Resource in business plan  
as at 31 December 2012

Tonnes  
million

Grade  
g/t

Contained gold  
Siguri

Tonnes            Moz

Comment

Kalamagna

0.02

0.60

0.01

0.00

Within the Indicated pits design

Kosise

0.08

1.05

0.09

0.00

Within the Indicated pits design (8% Inferred)

Kozan North

0.01

0.37

0.00

0.00

Within the Indicated pits design (0.2% Inferred)

Kozan South

0.00

0.20

0.00

0.00

Within the Indicated pits design (0.004%)

Seguélén

2.41

0.91

2.20

0.07

Within the Indicated pits design (12% Inferred)

Sokunu

0.12

0.65

0.08

0.00

Within the Indicated pits design (2% Inferred)

Soloni

0.77

0.90

0.69

0.02

Within the Indicated pits design (22% Inferred)

Sorofe

0.84

0.74

0.62

0.02

Within the Indicated pits design (30% Inferred)

Total

4.25

0.87

3.69

0.11

There are instances where Mineral Resource material classified as Inferred Mineral Resource is included in the business plan.

This material totals 0.14Moz, which is not significant and only represents 5% of the ounces in the business plan. The major contributors

of Inferred Mineral Resource material within the Ore Reserve are Seguélén, Soloni and Tubani (Sorofe) at 0.08Moz, 0.03Moz and

0.02Moz respectively.

COMPETENT PERSONS

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Craig Duvel

SACNASP

400007/98

18 years

Ore Reserve

Desiderius Kamugisha

MAusIMM

227 181

11 years

SIGUIRI

**continued**

Siguiri

0

50

100

150

200

250

300

0.0

0.2

0.4

0.6  
0.8  
1.0  
1.2  
1.4  
1.6  
1.8

Grade tonnage curve – Surface (metric)

Tonnes  
above cut-off  
(millions)

Average  
grade  
above  
cut-off

(g/t)  
Cut-off grade (g/t)

2.6  
2.2  
1.8  
1.4  
1.0  
0.6  
0.2

Tonnes above cut-off

Ave grade above cut-off

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**82**

}

## COUNTRY OVERVIEW

AngloGold Ashanti has interests in three operations in the west African country of Mali – Sadiola (41%), Yatela (40%) and Morila (40%).

The Sadiola and Yatela operations are managed by AngloGold Ashanti, while Randgold Resources Limited (Randgold) manages Morila.

## MINERAL RESOURCE ESTIMATION

The Mineral Resource is taken as the material that falls within the \$2,000/oz economic shell optimised for each individual deposit

(except for the Yatela main pit where \$1,300/oz was used). Mining finishes at Yatela in early 2014. A 3D surface is generated to create

the outline of the geological model within which grades are estimated. Block sizes are between 25m x 25m x 10m and 30m x 30m x

10m (X Y Z) and where appropriate, selective sub-celling is used for definition on the geological and mineralisation boundaries.

All the deposits are estimated by Ordinary Kriging. Where deemed appropriate, a geostatistical technique called Uniform Conditioning

is used to estimate the proportion of material that occurs above the cut-off assuring a selective mining unit (SMU).

## ORE RESERVE ESTIMATION

The Mineral Resource models are used as the basis for the Ore Reserve. Optimisations are run on the Measured and Indicated

Mineral Resource and the Measured, Indicated and Inferred Mineral Resource. All appropriate costs, metallurgical recovery factors

and geotechnical parameters are applied to generate the final Ore Reserve.

MALI

{

**83**

CONTINENTAL AFRICA

## LOCATION

The Morila mine is situated some 280km southeast of Bamako, the capital city of Mali. The mine is operated by Morila SA, a joint venture company incorporating Randgold (40%), AngloGold Ashanti (40%) and the Government of Mali (20%). Randgold took over the operation of Morila mine from AngloGold Ashanti in February 2008. Mining of the Morila open pits was successfully completed in April 2009. Consequently the main mining activity for the rest of the mine's life will consist of re-handling and processing the existing marginal ore and mineralised waste stockpiles at a rate of 4.4Mtpa.

## GEOLOGY

The Morila deposit occurs within a sequence of amphibolites facies Birimian metasediments. The economic mineralisation is located in these metasediments within a broad north-northwest trending corridor of shearing. This shear zone has both near vertical and flat lying components and is interpreted as being a second order shear off the main Banafin shear, approximately 25km to the east.

The Doubalakoro granite pluton borders the metasediments to the west and the Massigui granites lie to the east. Gold mineralisation is associated with silica feldspar alteration and the sulphide minerals arsenopyrite, pyrrhotite, and pyrite (with minor chalcopyrite).

A pushback project on the south of the current pit is being investigated. A preliminary study revealed a total of 23.8Mt to be mined, including 22.6Mt of waste and 1.2Mt @ 3.00g/t ore to produce 106,000oz of recovered gold over a 22-month activity period from April 2013. For cost saving reasons, 100% of the waste mined will be dumped in-pit.

## PROCESSING

Ore is processed at a rate of 4.4Mtpa via a conventional carbon-in-leach (CIL) plant, after passing through primary and secondary crushing processes followed by further comminution via a semi-autogenous grinding (SAG) mill and ball mill. After milling and classification, the slurried ore passes through the cyanide leach circuit for gold extraction, after which the leached ore is pumped and deposited into the tailings storage facility. Supernatant water from the tailings storage facility is reclaimed and collected in the return water dam before being returned to the mill for re-use.

## MORILA

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

84

}

MINERAL RESOURCE

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Morila

Category

Tonnes                      Moz

Stockpile (Marginal Ore)

Measured

1.54

1.14

1.75

0.06

Indicated

–

–

–

–

Inferred

–

–

–

–

Total

1.54

1.14

1.75

0.06

Stockpile (Mineralised Waste)

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

0.82

0.79

0.65

0.02

Total

0.82

0.79

0.65  
 0.02  
 Tailings storage facilities  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 –  
 –  
 –  
 –  
 Inferred  
 15.57  
 0.39  
 6.01  
 0.19  
 Total  
 15.57  
 0.39  
 6.01  
 0.19  
 Morila  
 Total  
 17.93  
 0.47  
 8.41  
 0.27  
 Exclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Morila  
 Category  
 Tonnes                      Moz  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 –  
 –  
 –  
 –  
 Inferred  
 16.39

0.41  
6.66  
0.21  
Morila  
Total  
16.39  
0.41  
6.66  
0.21  
Morila  
Mineral Resource reconciliation: 2011 to 2012  
0.39  
-0.07  
0.00  
0.00  
0.00  
0.00  
-0.05  
0.00  
0.27  
Ounces (millions)  
0.40  
0.36  
0.32  
0.28  
0.24  
2011  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
Morila  
Ore Reserve reconciliation: 2011 to 2012  
0.13  
-0.07  
0.00  
0.00  
0.00  
0.00  
0.00  
0.00  
0.00  
0.06



Ounces (millions)

0.14

0.12

0.10

0.08

0.06

0.04

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

{

**85**

CONTINENTAL AFRICA

MORILA

**continued**

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Morila

Category

Tonnes                      Moz

Stockpile (Marginal Ore)

Proved

–

–

–

–

Probable

1.54

1.14

1.75

0.06

Morila

Total

1.54

1.14

1.75

0.06

Ore Reserve modifying factors

% RRF

% MRF

as at

31 December 2012

Morila

Gold

price

\$/oz

Cut-off

value g/t

Au

Dilution

%

Dilution

g/t

(based

on

tonnes)

% RRF

(based

on g/t)  
 (based  
 on  
 tonnes)  
 % MRF  
 (based  
 on g/t)  
 MCF  
 %  
 MetRF  
 %  
 Stockpile  
 (Full Grade Ore)  
 1,000  
 1.00;  
 1.30\*

—  
 —  
 —  
 —  
 —  
 —

100.0  
 89.0  
 Stockpile  
 (Marginal Ore)  
 1,000  
 1.00;  
 1.30\*

—  
 —  
 —  
 —  
 —  
 —

100.0  
 88.8  
 \* Lower cut-off = 1.00g/t; top cut-off = 1.30g/t

Competent Persons  
 Category  
 Name  
 Professional  
 organisation  
 Registration  
 number  
 Relevant  
 experience  
 Mineral Resource  
 Rodney Quick\*  
 SACNASP  
 400014/05

19 years

Ore Reserve

Rodney Quick\*

SACNASP

400014/05

19 years

\* *Employed by Randgold Resources Limited*

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**86**

}

## SADIOLA

### LOCATION

Sadiola is situated in western Mali, some 77km to the south of the regional capital of Kayes and about 440km north-west of the capital city of Bamako. The mine is 41% owned by AngloGold Ashanti, 41% by IAMGOLD Corporation and 18% by the Republic of Mali.

The mine has been in production and operated by AngloGold Ashanti (AGA) since 1996. Current operations are focused on the mining of oxide material from the Fe3 and Fe4 pits. Mining from the Sadiola main pit has stopped although this pit remains a key project in

the extension of the Life of Mine (LOM) plan with the Sadiola Sulphide Project (SSP) awaiting board approval.

Ore is treated in a 4.8Mtpa CIP processing plant. The plant was originally designed to treat only soft oxide ore, but has been

progressively adapted to include a blend of hard oxides as well as batch feeding of a sulphide ore blend. Any hard material making up

the blends currently undergoes preconditioning through primary crushers.

The SSP project aims to mine the underlying sulphide material in the Sadiola main pit and build and commission a new sulphide plant.

The new plant will treat both sulphide stockpiles and then the run-of-mine sulphide material. The existing oxide plant will be converted

to increase the processing capacity of sulphides once oxide treatment has been completed. This project will extend the life of Sadiola

and leverage any further sulphide exploration successes in the region.

### GEOLOGY

The Sadiola gold deposits are located within the Malian portion of the Keniéba-Kedougou Inlier, a major early Paleoproterozoic-

Birimian window along the northeast margin of the Kenema-Man shield. The deposits are in the north of the inlier and positioned in the

Kofi Formation, just east of the Senegalo-Malian Shear Zone (SMS) terrane boundary. Regional metamorphism is greenschist facies

with amphibolites facies metamorphism observed in the contact aureoles around major intrusions.

The gold mineralisation in the Sadiola main pit is related to the interaction of the north-striking Sadiola Fracture Zone (SFZ) and a north-

northeast striking fault array. The SFZ follows the competency contrast between the brittle hanging wall greywacke and the ductile

foot wall marbles and is mineralised over a drilled strike length of approximately 2,500m. The stratigraphy is intruded by discontinuous

diorite and quartz-feldspar porphyry dykes. Mineralisation occurs in all four rock types although most of the mineralisation is hosted in

the foot wall adjacent to the SFZ. The deposit has been intensely weathered to a maximum depth of 200m.

The oxide Ore Reserve of the Sadiola main pit is now fully depleted with the remaining ore below the current pit being part of the SSP.

The primary source of the oxide ore currently comes from two satellite pits located approximately 6km southeast of the Sadiola mine

and processing plant. Mineralisation at the FE3 pits is hosted in marbles adjacent to the upper contact with carbon-rich pelites.

Gold is associated with northeast-east striking faults and lens-shaped breccia zones that are broadly parallel to the northwest-trending

stratigraphy. The FE4 deposit is located in a bedded sandstone and pelite sequence with mineralisation predominantly hosted in

breccia along a northeast-striking regional shear and several subsidiary north-northeast-trending faults.

At this stage all the gold is recovered from mostly soft, oxidised ore from the satellite pits.

#### EXPLORATION

The Sadiola exploration strategy is focused to build a comprehensive understanding of the remaining oxide potential in the short term

and drive to extend the sulphide potential in the longer term.

Oxide exploration on the Sadiola concession is reaching maturity and exploration work is focused primarily on follow up drilling at

various prospective targets at Sadiola North East, Mandakoto, Tambali and around the FE3 and FE4 pit areas. Results obtained from

these targets warrant follow up to establish further oxide mineralisation. Infill drilling was done at Tambali and extensions of the FE2

deposits to improve confidence in the Mineral Resource, however exceptionally high rainfall during the year and political instability in

Mali hampered progress at other oxide targets in 2012.

Results from geophysical and geochemical surveys conducted during 2012 aided in further target generation with new anomalies

identified and ranked for additional oxide potential to be followed up over the next two years.

Induced Polarisation (IP) geophysical surveys continued during 2012 with the Sadiola concession now 95% covered.

The survey is

planned to be completed in early 2013. Sadiola mineralisation is a good IP target due to the association of sulphides, silicification and

gold. At the Tambali anomaly south of the Sadiola main pit the mineralisation is well defined by the IP chargeable anomalies and further

investigation is warranted through the use of IP at targets with shallow drilling.

{

**87**

CONTINENTAL AFRICA

A comprehensive termite mound sampling programme was completed during 2012 and the entire Sadiola concession is now covered at a resolution of 200m to 150m x 50m. The programme has been successful in highlighting prospective areas on the lease along the FE trend and northeast extensions of Sadiola mineralisation. Preliminary results from X-Ray Fluorescence (XRF) analysis of termite mound samples shows good correlations with gold and various indicator elements. The use of XRF data will be expanded in 2013 to supplement all other analysis to assist in refining exploration targeting. The 2012 exploration strategy also considered initial exploration for primary ('sulphide') gold mineralisation potential below the current and planned open pits. A drilling campaign below the Sadiola pit demonstrated continuity of the sulphide mineralisation and also shows that the Sadiola Shear Zone (SSZ) maintains the width of mineralisation where it starts to steepen with depth (average true thickness of 46m at 2.57g/t). Drilling of the sulphide mineralisation was also conducted at Tambali where grades in excess of 1.5g/t were obtained to depths of over 300m. During 2013 and 2014 sulphide exploration will increase substantially as drilling of the oxide targets is completed. Hyperspectral core imaging of 93,000m of core from mainly the SSP and other deposits on the lease was completed during the first quarter of the 2012. Processing of the images continues with results expected in early 2013. These results will provide alteration based vectors for exploration targeting and will be instrumental in predicting metallurgical parameters. A three-year research programme by the Centre for Exploration Targeting from the University of Western Australia began in early 2012. The objective of the project is to revise the mineralisation model and understand the alteration and structural controls to expand on the geological understanding of the Sadiola-Yatela deposit. This will underpin further oxide and sulphide exploration programmes. Although the Sadiola concession is considered a mature exploration area, potential remains for further oxide and sulphide discoveries. The strategy remains focused on the exploration of both oxide and sulphide potential using a variety of techniques and expertise to increase the Mineral Resource and extend the LOM at Sadiola.

#### PROJECTS

The SSP remains the only major AngloGold Ashanti project in Mali and remains the focus for extension of the LOM plan. The environmental and social impact assessment (ESIA) has been approved both for the SSP project and for the power line. Advanced project work has been done on the new oxide pits, with current focus on the Tambali pit. Tambali is situated just south of the Sadiola main pit, close to the current oxide plant. Permits were issued in December 2012 and production from this pit will begin in mid-2013.

#### MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification  
Type of drilling  
Mine/Project

Category  
 Spacing  
 m (-x-)  
 Diamond  
 RC  
 Blast-  
 hole  
 Other Comments

Sadiola  
 Measured  
 25 x 25  
 X X -

-  
 -

Indicated  
 10 x 10,  
 25 x 25,  
 50 x 25  
 X X -

-

Limited diamond drilling (DD) drilled  
 to define structure, and met test  
 work.

Inferred  
 25 x 50,  
 50 x 25,  
 50 x 50  
 X X -

-

Limited DD drilled to define structure.

Grade/Ore control 5 x 10

-

X -

-

-

SADIOLA

**continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**88**

}



Inclusive Mineral Resource  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Sadiola

Category

Tonnes

Moz

FE2

Measured

–

–

–

–

Indicated

0.71

1.67

1.19

0.04

Inferred

0.04

1.64

0.07

0.00

Total

0.75

1.67

1.26

0.04

FE3

Measured

–

–

–

–

Indicated

2.59

1.66

4.29

0.14

Inferred

0.29

1.91

0.55

0.02

Total

2.88

1.68

4.84

0.16  
FE4  
Measured

—  
—  
—  
—

Indicated

1.44  
1.75  
2.53  
0.08

Inferred

0.37  
1.48  
0.54  
0.02

Total

1.81  
1.70  
3.07  
0.10

FN2

Measured

—  
—  
—  
—

Indicated

0.56  
1.26  
0.70  
0.02

Inferred

0.01  
1.21  
0.01  
0.00

Total

0.57  
1.26  
0.71  
0.02

FN3

Measured

—  
—  
—  
—

Indicated

0.36

1.66  
0.60  
0.02  
Inferred  
0.15  
1.32  
0.20  
0.01  
Total  
0.51  
1.56  
0.80  
0.03  
Total stockpiles  
Measured  
7.08  
0.92  
6.50  
0.21  
Indicated  
1.41  
3.21  
4.53  
0.15  
Inferred  
—  
—  
—  
—  
Total  
8.49  
1.30  
11.03  
0.35  
Sekokoto  
Measured  
—  
—  
—  
—  
Indicated  
0.33  
1.41  
0.47  
0.02  
Inferred  
0.25  
1.53  
0.38  
0.01  
Total

0.58

1.46

0.85

0.03

Tambali South

Measured

—

—

—

—

Indicated

4.51

1.18

5.31

0.17

Inferred

0.44

1.13

0.50

0.02

Total

4.95

1.17

5.81

0.19

SSP (Oxides)

Measured

0.00

1.90

0.01

0.00

Indicated

0.57

1.32

0.76

0.02

Inferred

0.11

1.24

0.14

0.00

Total

0.68

1.31

0.91

0.03

SSP (Transitional)

Measured

—

—

—

—  
Indicated  
0.27  
1.39  
0.37  
0.01  
Inferred  
0.42  
1.30  
0.54  
0.02  
Total  
0.69  
1.33  
0.91  
0.03  
SSP (Sulphides)  
Measured  
0.00  
4.75  
0.02  
0.00  
Indicated  
38.77  
1.86  
72.03  
2.32  
Inferred  
8.93  
1.74  
15.54  
0.50  
Total  
47.70  
1.84  
87.59  
2.82  
Sadiola  
Total  
69.60  
1.69  
117.75  
3.79  
{  
**89**  
CONTINENTAL AFRICA

Exclusive Mineral Resource  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Sadiola

Category

Tonnes

Moz

Measured

4.87

0.75

3.64

0.12

Indicated

23.81

1.50

35.62

1.15

Inferred

10.99

1.68

18.45

0.59

Sadiola

Total

39.67

1.45

57.71

1.86

The Exclusive Mineral Resource is defined as the part of the Mineral Resource that was not converted to Ore Reserve. For the Sadiola

pits, the Exclusive Mineral Resource is defined as follows:

- the Mineral Resource that is outside the current Ore Reserve designs but inside the Mineral Resource shells;
- the Inferred Mineral Resource; and
- material below the Ore Reserve cut-off grade and above the Mineral Resource cut-off grade.

The Exclusive Mineral Resource gives an indication of the future potential of the deposit. This material could be converted to Ore

Reserve with an increase in the gold price and favourable costs. The Inferred Mineral Resource portion of the Mineral Resource within

the Ore Reserve pit design will be converted to the Ore Reserve through grade control drilling. The low-grade 'mineralised waste'

stockpiles that are currently below the marginal ore cut-off grade are also declared as Exclusive Mineral Resource as these stockpiles

are currently not in the mining plan.

SADIOLA

**continued**

Sadiola

Mineral Resource reconciliation: 2011 to 2012

4.40

-0.12

0.11

-0.25

0.01

-0.33

-0.03

0.00

3.79

Ounces (millions)

4.4

4.3

4.2

4.1

4.0

3.8

3.7

3.6

2011

Depletion

Gold price

Cost

Exploration

Methodology

Other

Acquisition/

Disposal

2012

Sadiola

Ore Reserve reconciliation: 2011 to 2012

2.30

-0.14

0.03

-0.11

0.03

-0.07

0.10

0.00

2.14

Ounces (millions)

2.3

2.2

2.1

2.0

1.9

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**90**

}



ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Sadiola

Category

Tonnes

Moz

FE2

Proved

–

–

–

–

Probable

0.51

1.70

0.87

0.03

Total

0.51

1.70

0.87

0.03

FE3

Proved

–

–

–

–

Probable

2.01

1.91

3.83

0.12

Total

2.01

1.91

3.83

0.12

FE4

Proved

–

–

–

–

Probable

0.84

2.17  
1.82  
0.06  
Total  
0.84  
2.17  
1.82  
0.06  
FN2  
Proved  
—  
—  
—  
—  
Probable  
0.15  
1.55  
0.23  
0.01  
Total  
0.15  
1.55  
0.23  
0.01  
FN3  
Proved  
—  
—  
—  
—  
Probable  
0.12  
1.84  
0.22  
0.01  
Total  
0.12  
1.84  
0.22  
0.01  
Total stockpiles  
Proved  
2.21  
1.29  
2.86  
0.09  
Probable  
1.41  
3.21  
4.53  
0.15

Total  
 3.62  
 2.04  
 7.39  
 0.24  
 Tambali South  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 2.14  
 1.40  
 3.00  
 0.10  
 Total  
 2.14  
 1.40  
 3.00  
 0.10  
 SSP (Oxides, Transitional, Sulphides)  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 27.63  
 1.78  
 49.14  
 1.58  
 Total  
 27.63  
 1.78  
 49.14  
 1.58  
 Sadiola  
 Total  
 37.02  
 1.80  
 66.50  
 2.14  
 Ore Reserve modifying factors  
 % RRF  
 % MRF  
 as at  
 31 December 2012  
 Sadiola  
 Gold  
 price

\$/oz  
Cut-off  
value g/t  
Au  
Dilution  
%  
Dilution  
g/t  
(based  
on  
tonnes)  
% RRF  
(based  
on g/t)  
(based  
on  
tonnes)  
% MRF  
(based  
on g/t)  
MCF  
%  
MetRF  
%  
SSP (Oxides,  
Transitional,  
Sulphides)  
1,100  
0.71  
3.2  
0.06  
100.0  
100.0  
100.0  
100.0  
100.0  
76.0  
FE2  
1,500  
0.72  
4.7  
0.08  
90.0  
100.0  
100.0  
100.0  
100.0  
94.0  
FE3  
1,250  
0.72

2.8  
0.05  
85.0  
100.0  
100.0  
100.0  
100.0  
94.0  
FE4  
1,250  
0.72  
2.8  
0.06  
85.0  
100.0  
100.0  
100.0  
100.0  
94.0  
FN2  
1,500  
0.72  
0.8  
0.01  
90.0  
100.0  
100.0  
100.0  
100.0  
94.0  
FN3  
1,500  
0.72  
5.7  
0.11  
90.0  
100.0  
100.0  
100.0  
100.0  
94.0  
Tambali South  
1,500  
0.72  
1.9  
0.03  
90.0  
100.0  
100.0  
100.0  
100.0

94.0

{

**91**

CONTINENTAL AFRICA

SADIOLA

**continued**

Inferred Mineral Resource in business plan  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Sadiola

Tonnes

Moz

Comment

FE2

0.03

1.65

0.05

0.00

–

FE3

0.12

2.18

0.27

0.01

–

FE4

0.09

1.78

0.15

0.00

–

FN2

0.00

1.30

0.00

0.00

–

FN3

0.01

2.00

0.02

0.00

–

Tambali South

0.02

1.15

0.02

0.00

–

SSP (Oxides, Transitional,  
Sulphides)

2.40

1.66  
 3.97  
 0.13

–  
 Total  
 2.67  
 1.68  
 4.48  
 0.14

The plant feed of the final LOM pit designs includes Inferred Mineral Resource in the final schedule.

COMPETENT PERSONS

Category

Name

Professional  
 organisation

Registration  
 number

Relevant  
 experience

Mineral Resource

Geoffrey Gushee

MAusIMM

207 957

24 years

Ore Reserve

Steve Kirkpatrick

SAIMM

703 957

13 years

Sadiola

0

50

100

150

200

250

300

0.0

0.1

0.2

0.3

0.4

0.5

0.6

0.7

0.8

0.9

1.0

Grade tonnage curve – Surface (metric)

Tonnes above

cut-off (millions)



Average

grade

above

cut-off (g/t)

Cut-off grade (g/t)

2.2

1.8

1.4

1.0

0.6

0.2

Tonnes above cut-off

Ave grade above cut-off

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**92**

}

## LOCATION

Yatela mine is situated some 25km north of Sadiola, approximately 50km southwest of Kayes. The mine is 40% owned by AngloGold

Ashanti, 40% by IAMGOLD Corporation and 20% by the Republic of Mali. Yatela is a mature operation which has been operated by

AngloGold Ashanti (AGA) since 2000 and is now operating in closure mode with mining activities due to finish in early 2014. The Yatela

mine is currently mining from two open pits, the Yatela main pit and the Yatela North pit. Mining at the Alamoutala satellite pits, KW18

and Northwest extension pit has now been completed.

Ore is processed through a 3.0Mtpa heap leach plant that was commissioned in 2000. The pregnant liquor pond for gold

recovery uses the carbon-in-solution (CIS) process, with loaded carbon being sent to Sadiola for elution, regeneration, electro-

winning and smelting.

## GEOLOGY

The Yatela and Alamoutala deposits are located in northwest Mali within the Keniéba-Kedougou Inlier, a major Paleoproterozoic-

Birimian inlier along the northeast margin of the Kenema-Man shield. The Yatela deposit is located in the north of the inlier and is

hosted in sedimentary rocks of the Kofi Formation, which have been intruded by numerous felsic intrusives. The sedimentary rocks

consist of fine-grained greywackes, pelites and impure limestones with minor tuffs and acid volcanics. The primary gold mineralisation

is hosted along a sheared contact between predominantly dolomitic carbonate rocks of the Kofi Formation to the west and a large,

weakly mineralised dioritic intrusion to the east. The primary mineralisation was concentrated to economic grades through dissolution

of the carbonate and subsequent concentration of the gold by eluvial processes and supergene enrichment.

Karst development at Yatela has formed deep pot-holes, collectively named the Yatela Basin, which were gradually filled by sandstones

and conglomerates during peneplanation of the Proterozoic rocks. Chaotic collapse during karstification, coupled with the infill

sediments resulted in the deposit being hosted in a melange-type of rocks made up of sedimentary rocks and dissolution residues.

Gold is disseminated in the unconsolidated ferruginous, sandy-clayey layer that lines the bottom and walls of a deep trough with

steep margins. The mineralised zone dips steeply on the west wall and more gently to the west on the east wall, following a keel-like

geometry with tight closure towards the south. The supergene enrichment of low-grade primary gold mineralisation associated with

the karstification is the most important geological feature to the economics of the Yatela deposit.

The geology of the Alamoutala deposits comprises north-trending clastic metasediments and calcitic marbles which were intruded by

a coarse-grained granodiorite. In the Alamoutala pits, the gold mineralisation is hosted in saprolitised marbles and karstic rocks in the

south, and in weathered clastic metasedimentary rocks to the north. The mineralisation occurs proximal to the intermittently sheared

and fractured contact, named the Alamoutala Fracture Zone, between the clastic and carbonate units. The Alamoutala deposits are

mined out.

## EXPLORATION

Exploration during 2012 focused on finding additional oxide potential that can be converted into Ore Reserve in the short term due

to the limited mine life remaining at Yatela.

Extensive reverse circulation (RC) drilling took place at the high priority targets of Badji, KW18 and Alamoutala during the first half

of the year. Although gold was intersected at Badji the mineralisation is generally confined to narrow, high-grade veins with short

strike lengths that are unlikely to be economically viable. The mineralisation at KW18 occurs as discrete lenses over a 2.7km strike,

straddling the Keniabandi-Kofi contact. This is characterised by shallow weathering and occasional quartz veining in quartzite and

metagreywacke with most of the significant intercepts in fresh rock. With the initial drilling campaigns now complete, the results from

all three targets are being evaluated to determine if there is any economic mineralisation.

An infill drilling campaign was completed between Yatela and the Yatela North pits to follow up on the lower grade mineralisation in this

area that tends to follow the hard/soft contact. Portions of this area are under the waste rock dumps. The final results of this project

should be available during the first quarter of 2013.

Mapping and grab sampling was completed over the targets of Yiri and Fleri targets which are situated in a low prospective area on the

extreme west of the Kofi formation. Limited drilling was carried out at Yiri targeting geophysical and geochemical anomalies near the

site of artisanal miners. Based on the results, the area continues to be considered to be sub-economic so no further oxide exploration

is planned in this area.

YATELA

{

**93**

CONTINENTAL AFRICA

Although the exploration of the existing exploration targets has reached maturity, research work will continue to investigate further oxide potential. Immediate areas of focus will be a geophysical target associated with eastern margin of the diorite at Yatela main pit and follow up on results from the research project being conducted in conjunction with the University of Western Australia's Centre for Exploration Targeting. With the aggressive two-year oxide exploration programme essentially terminating at the end of 2012, the attention will now shift to sulphide exploration. The Alamoutala and Yatela pits may have sulphide potential at depth and the initial phase of exploration involves conceptual modelling followed by deep drilling.

**PROJECTS**

No projects are planned on the Yatela concession. However the exploration programme will continue in 2013 to finalise the exploration of the remaining oxide targets and assess the sulphide potential beneath the oxide deposits. The company is also looking at possible partnerships with nearby lease holders which may result in an additional Ore Reserve that could extend the life of the Yatela operation.

**MINERAL RESOURCE**

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Yatela

Measured

25 x 25

X X -

-

-

Indicated

25 x 25,

35 x 45

X X -

-

Diamond holes drilled for metallurgy

test work.

Inferred

50 x 50

X X -

-

-

Grade/Ore control 10 x 5

-

X -

–  
 –  
 Inclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Yatela  
 Category  
 Tonnes                      Moz  
 Main pit  
 Measured  
 0.03  
 1.68  
 0.05  
 0.00  
 Indicated  
 0.50  
 3.04  
 1.53  
 0.05  
 Inferred  
 0.37  
 2.40  
 0.89  
 0.03  
 Total  
 0.90  
 2.74  
 2.47  
 0.08  
 Total stockpiles  
 Measured  
 0.50  
 0.61  
 0.30  
 0.01  
 Indicated  
 –  
 –  
 –  
 –  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 0.50

0.61  
 0.30  
 0.01  
 Yatela  
 Total  
 1.40  
 1.98  
 2.77  
 0.09  
 Exclusive Mineral Resource  
 as at 31 December 2012

Tonnes  
 million  
 Grade  
 g/t

Contained gold  
 Yatela  
 Category

Tonnes            Moz  
 Measured

0.35  
 0.52  
 0.18  
 0.01

Indicated

0.11  
 1.49  
 0.16  
 0.01

Inferred

0.37  
 2.40  
 0.89  
 0.03

Yatela  
 Total

0.83  
 1.49  
 1.23  
 0.04

The Exclusive Mineral Resource is defined as the part of the Mineral Resource that was not converted to Ore Reserve. Due to the short Life of Mine (LOM) at Yatela, only the Mineral Resource within the final pit designs is declared in this statement. As such, the Exclusive Mineral Resource is the material in the final pit design that is lower than the Ore Reserve cut-off but above the Mineral Resource cut-off.

YATELA  
**continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**94**  
 }

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Yatela

Category

Tonnes

Moz

Main pit

Proved

–

–

–

–

Probable

0.26

3.61

0.92

0.03

Total

0.26

3.61

0.92

0.03

Total stockpiles

Proved

0.05

1.36

0.07

0.00

Probable

–

–

–

–

Total

0.05

1.36

0.07

0.00

Yatela

Total

0.30

3.26

0.99

0.03

Ore Reserve modifying factors

% RRF

% MRF  
as at  
31 December 2012

Yatela  
Gold  
price  
\$/oz  
Cut-off  
value g/t

Au  
Dilution  
%  
Dilution  
g/t  
(based  
on  
tonnes)

% RRF  
(based  
on g/t)  
(based  
on  
tonnes)

% MRF  
(based  
on g/t)

MCF  
%  
MetRF  
%

Main pit  
1,300  
0.45  
0.0  
0

–  
–  
100.0  
–  
100.0  
84.8

Inferred Mineral Resource in business plan  
as at 31 December 2012

Tonnes  
million  
Grade  
g/t  
Contained gold

Yatela  
Tonnes           Moz  
Comment



Main pit

0.37

2.40

0.89

0.03

Inferred material makes up 51% of business plan but is not included in the Ore Reserve statement

Total

0.37

2.40

0.89

0.03

The high proportion of Inferred Mineral Resource material is included in the plan in order to extend the life of the Yatela main pit by

enabling a final push back (Pushback 8) to the high-grade mineralisation below the current pit bottom. It was not possible to upgrade

the Inferred Mineral Resource during 2012 due to access issues as a result of pit infrastructure and mining activity.

Portions of the

deposit will become accessible for infill drilling during 2013 as face positions advance. All areas included in the mine plan will be

mapped and drilled for grade control prior to extraction.

Yatela

Mineral Resource reconciliation: 2011 to 2012

0.12

-0.03

0.00

0.00

0.00

0.00

0.00

0.00

0.09

Ounces (millions)

0.120

0.110

0.100

0.090

0.080

2011

Depletion

Gold

price

Cost

Exploration

Methodology

Other

Acquisition/

Disposal

2012

Yatela

Ore Reserve reconciliation: 2011 to 2012

0.05

-0.02

0.00

0.00

0.00

0.00

0.00

0.00

0.03

Ounces (millions)

0.055

0.050

0.045

0.040

0.035

0.030

0.025

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

{

**95**

CONTINENTAL AFRICA

COMPETENT PERSONS

Category

Name

Professional  
organisation

Registration  
number

Relevant  
experience

Mineral Resource

Geoffrey Gushee

MAusIMM

207 957

24 years

Ore Reserve

Steve Kirkpatrick

SAIMM

703 957

13 years

YATELA

**continued**

Yatela

0.2

0.4

0.6

0.8

1.0

1.2

1.4

1.6

1.8

2.0

Grade tonnage curve – Surface (metric)

Tonnes above

cut-off (millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

6.5

6.0

5.5

5.0

4.5

4.0

3.5

3.0

2.5

2.0

1.0  
0.9  
0.8  
0.7  
0.6  
0.4  
0.2

Tonnes above cut-off

Ave grade above cut-off

**2012** MINERAL RESOURCE AND ORE RESERVE REPORT

**96**

}

#### COUNTRY OVERVIEW

Navachab gold mine, AngloGold Ashanti's sole operation in Namibia, is wholly owned by the company. It is currently the only significant gold mining operation in Namibia.

#### MINERAL RESOURCE ESTIMATION

Mineral Resource estimation is performed using geostatistical techniques. Grade interpolation is done into blocks with approximate dimensions of 20m x 20m x 5m using Ordinary and Indicator Kriging methods. A geostatistical technique called Uniform Conditioning is then used to estimate the proportion of ore that occurs above the Mineral Resource cut-off and this is reported assuming a specified selective mining unit (SMU).

#### ORE RESERVE ESTIMATION

Optimised pit shells are generated using economic parameters. The final pits are then designed based on the optimised pit shell, recommended slope geometry and ramp access requirements.

#### NAMIBIA

{

97

#### CONTINENTAL AFRICA

## LOCATION

Navachab is located 10km southwest of Karibib and 170km west-northwest of Windhoek, the capital of Namibia. Navachab is mined as an open-pit mine with a CIP plant that has a production capacity of 120,000tpm. The plant includes mills, CIP and electro-winning facilities. A dense media separation (DMS) plant with a 200 tonnes per hour (tph) capacity was commissioned during 2010 and a portion of the CIP feed comes from this pre-concentration plant.

## GEOLOGY

The Navachab gold deposit is located in the Pan-African Damara Orogen and hosted by greenschist-amphibolite facies calc-silicates, marbles and volcanoclastic rocks. The rocks have been intruded by granite, pegmatite and aplitic dykes and have also been deformed into a series of alternating dome and basin-like structures. The mineralisation at Navachab forms a sheet-like body which plunges at an angle of approximately 20° to the northwest. The mineralisation is predominantly hosted in a sheeted quartz vein set (approximately 60% of tonnage) and a replacement skarn (approximately 40% of tonnage). The mineralisation in the main pit is hosted by a northeast to southwest striking metamorphosed sequence of calc-silicates, marbles and volcanoclastic rocks that dip at 70° to the west. The gold is very fine-grained and associated with pyrrhotite and minor amounts of pyrite, chalcopyrite, arsenopyrite, sphalerite, maldonite and bismuthinite. An estimated 90% of the gold occurs as free gold and the remainder is present in minerals such as maldonite (Au<sub>2</sub>Bi). Silver is also present with a gold to silver ratio of approximately 15 to 1.

## EXPLORATION

The exploration strategy at Navachab's main deposit is to evaluate the shallow mineralisation in the NP2 pit (located adjacent to the main pit) where a second vein swarm plunges down to 250m below surface. Drilling during the year has confirmed the down-plunge extension of this oreshoot and this near surface mineralisation will assist in unlocking deeper foot wall mineralisation for further exploitation down to 350m below surface. Drilling during the year has infilled mineralisation information gaps and confirmed the foot wall down-plunge extension. Drilling during the next four years will focus on exploration of the satellite deposits to find near-surface, high-grade 'Grid A' type mineralisation to displace low-grade plant feed during stripping of the main deposit extensions. Current satellite target areas are Anomaly 16, Gecko, Steenbok, Starling and Klipspringer.

## PROJECTS

Exploration of the Gecko target has produced a shallow, high-grade Mineral Resource containing 0.04Moz. This mineralisation can be used to supplement the low production years. Exploration of the Anomaly 16 target, which is approximately 7km from the plant, has produced a lower-grade Mineral Resource of approximately 0.21Moz with the potential to grow significantly. The Mineral Resource for Anomaly 16 is currently situated in the Valley target area, whilst the Central and Beacon target areas are yet to be explored.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other      Comments

Navachab

Measured

5 x 10,

10 x 10

-

X              -

-

-

Indicated

25 x 25

X              X              -

-

-

Inferred

50 x 50

X              X              -

-

-

Grade/Ore control      5 x 10

-

X              -

-

-

NAVACHAB

2012 MINERAL RESOURCE AND ORE RESERVE REPORT

98

}

Navachab

Mineral Resource reconciliation: 2011 to 2012

4.95  
 -0.12  
 0.57  
 0.51  
 0.01  
 0.09  
 -1.61  
 0.00  
 4.41  
 Ounces (millions)

6.2  
 5.8  
 5.4  
 5.0  
 4.6  
 4.2  
 2011

Deple-

tion

Gold

price

Cost

Explo-

ration

Metho-

dology

Other

Acquisition/

Disposal

2012

Navachab

Ore Reserve reconciliation: 2011 to 2012

2.05  
 -0.12  
 -0.00  
 0.00  
 0.00  
 0.17  
 0.00  
 0.00  
 2.10  
 Ounces (millions)

2.10  
 2.06  
 2.02  
 1.98  
 1.94  
 1.90  
 2011



Depletion Model  
 change  
 Change  
 in  
 economics  
 New  
 ounces  
 from  
 projects  
 Scope  
 change  
 Other  
 Acquisition/  
 Disposal  
 2012  
 Inclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Navachab  
 Category  
 Tonnes                      Moz  
 Anomaly 16  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 4.13  
 0.96  
 3.95  
 0.13  
 Inferred  
 2.63  
 1.00  
 2.62  
 0.08  
 Total  
 6.76  
 0.97  
 6.57  
 0.21  
 Gecko  
 Measured  
 –  
 –  
 –

–  
 Indicated  
 0.52  
 1.56  
 0.81  
 0.03  
 Inferred  
 0.30  
 1.40  
 0.42  
 0.01  
 Total  
 0.82  
 1.50  
 1.23  
 0.04  
 Main pit (Anomaly 13)  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 91.93  
 1.23  
 112.97  
 3.63  
 Inferred  
 4.83  
 1.10  
 5.32  
 0.17  
 Total  
 96.76  
 1.22  
 118.29  
 3.80  
 Stockpile (Marginal Ore)  
 Measured  
 7.71  
 0.52  
 4.00  
 0.13  
 Indicated  
 –  
 –  
 –  
 –  
 Inferred  
 –  
 –

–  
 –  
 Total  
 7.71  
 0.52  
 4.00  
 0.13  
 Stockpile (Full Grade Ore)  
 Measured  
 9.50  
 0.74  
 7.03  
 0.23  
 Indicated  
 –  
 –  
 –  
 –  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 9.50  
 0.74  
 7.03  
 0.23  
 Navachab  
 Total  
 121.55  
 1.13  
 137.11  
 4.41  
 Exclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Navachab  
 Category  
 Tonnes            Moz  
 Measured  
 5.89  
 0.53  
 3.12  
 0.10  
 Indicated  
 56.10

1.07  
60.17  
1.93  
Inferred  
7.76  
1.08  
8.36  
0.27  
Navachab

Total

69.75

1.03

71.65

2.30

The main pit contains the largest portion (1.969Moz) of the Exclusive Mineral Resource. Approximately 0.13Moz of the Exclusive

Mineral Resource is hosted in the marginal ore stockpiles at a grade of 0.52g/t and the intention is to bring the gold to account through

pre-concentration (using the DMS plant) in the future. The remainder of the Exclusive Mineral Resource is from Anomaly 16 (0.08Moz)

and Gecko (0.02Moz).

{

**99**

CONTINENTAL AFRICA

NAVACHAB **continued**

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Navachab

Category

Tonnes

Moz

Gecko

Proved

–

–

–

–

Probable

0.44

1.18

0.51

0.02

Total

0.44

1.18

0.51

0.02

Main pit (Anomaly 13)

Proved

–

–

–

–

Probable

40.04

1.42

56.89

1.83

Total

40.04

1.42

56.89

1.83

Stockpile (Marginal Ore)

Proved

–

–

–

–

Probable

1.82  
 0.48  
 0.88  
 0.03  
 Total  
 1.82  
 0.48  
 0.88  
 0.03  
 Stockpile (Full Grade Ore)  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 9.50  
 0.74  
 7.01  
 0.23  
 Total  
 9.50  
 0.74  
 7.01  
 0.23  
 Navachab  
 Total  
 51.80  
 1.26  
 65.29  
 2.10  
 Ore Reserve modifying factors  
 % RRF  
 % MRF  
 as at  
 31 December 2012  
 Navachab  
 Gold  
 price  
 \$/oz  
 \$/ZAR  
 exchange  
 rate  
 Cut-off  
 value  
 g/t Au  
 Dilution  
 %  
 Dilution  
 g/t  
 (based

on  
tonnes)  
% RRF  
(based  
on g/t)  
(based  
on  
tonnes)  
% MRF  
(based  
on g/t)  
MCF  
%  
MetRF  
#  
%  
Anomaly 16  
1,300  
7.17  
0.49;  
0.78\*  
7.5;  
17\*\*  
—  
—  
—  
—  
—  
100.0  
88.1  
Gecko  
1,300  
7.17  
0.49;  
0.78\*  
7.5;  
17\*\*  
—  
—  
—  
—  
—  
100.0  
88.1  
Main pit  
(Anomaly 13)  
1,300  
7.17  
0.49;  
0.78\*  
7.5;

17\*\*

—

—

—

—

100.0

88.1

Stockpile

(Full Grade Ore)

1,300

7.17

0.49;

0.78\*

—

—

—

—

—

100.0

88.1

Stockpile

(Marginal Ore)

1,300

7.17

0.49;

0.78\*

—

—

—

—

—

100.0

88.1

\*

\*

*DMS = 0.49g/t, CIP = 0.78g/t \*\* Dilution depending on ore type was applied*

#

*Average Life of Mine CIP Met recovery*

Inferred Mineral Resource in business plan

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Navachab

Tonnes

Moz

Comment



Anomaly 16

0.60

1.30

0.78

0.03

Inferred in business plan from Anomaly 16.

Anomaly 16 not reported as an Ore Reserve.

Gecko

0.07

0.62

0.04

0.00

Inferred in business plan from Gecko pits

Main pit (Anomaly 13)

1.07

1.24

1.33

0.04

Inferred in business plan from main pit

Total

1.74

1.24

2.15

0.07

The Inferred Mineral Resource was used in the pit optimisation process and is present in the designed pits and in the Life of Mine (LOM) schedule.

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**100**

}

COMPETENT PERSONS

Category

Name

Professional  
organisation

Registration  
number

Relevant  
experience

Mineral Resource

Graham Bell

MAusIMM

306 709

13 years

Ore Reserve

George Botshiwe

MAusIMM

229 475

12 years

Navachab

0

100

200

300

400

500

0.0

0.5

1.0

1.5

2.0

2.5

3.0

3.5

4.0

4.5

5.0

Grade tonnage curve – Surface (metric)

Tonnes

above

cut-off

(millions)

Average grade above cut-off (g/t)

Cut-off grade (g/t)

7

6

5

4

3

2

1

0

Tonnes above cut-off

Ave grade above cut-off

{

**101**

CONTINENTAL AFRICA

## COUNTRY OVERVIEW

Geita is the largest of AngloGold Ashanti's seven open-pit mines in Africa. Prior to April 2004, Geita was managed under a joint venture agreement between Ashanti and AngloGold. Since the merger of the two companies, Geita is a wholly-owned subsidiary of AngloGold Ashanti.

## MINERAL RESOURCE ESTIMATION

The mineralisation boundaries for the individual deposits are defined from the detailed logging of all geological drill holes. This information is validated and then used to create a 3D model. The geological model is subsequently populated with an appropriately dimensioned block model. Ordinary Kriging is used to interpolate values into the blocks. A geostatistical technique called Uniform Conditioning is used to estimate the proportion of ore that occurs above the Mineral Resource cut-off and this is then reported assuming a specified selective mining unit (SMU). The Mineral Resource is reported within a \$2,000/oz optimised pit shell and above the calculated mineralised waste cut-off grade per pit. Stockpiled material above mineralised waste cut-off grade is included in the Mineral Resource.

## ORE RESERVE ESTIMATION

The Mineral Resource models are used as the basis for Ore Reserve estimation. Modifying factors include the input gold reserve price, mining dilution and recovery, geotechnical, stay in business capital, operating costs, metallurgical recovery, processing capacity, and mining equipment capacities. Appropriate Ore Reserve cut-off grades are applied and optimised pit shells are generated. Pit designs are then done on selected shells upon which mine scheduling is done. An Ore Reserve gold price of \$1,300/oz was used.

## TANZANIA

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

102

}

## LOCATION

The Geita gold mine is located approximately 910km from Dar es Salaam in the Lake Zone of northern Tanzania. The tenements are situated within the Sukumaland Greenstone Belt of the Lake Victoria goldfields, which hosts other gold mines including Golden Pride, Bulyanhulu, Tulawaka and Buzwagi. This geological terrain is considered to be one of the most productive Archaean Greenstone Belts in east Africa. Mining at Geita is currently undertaken by standard open pit mining methods, but underground mining of the down-dip extension of the known mineralisation is being considered.

## GEOLOGY

The Geita Greenstone belt is a segment of the Sukumaland Greenstone Belt. This Archaean sequence strikes east-west, is 60km long and up to 15km wide. The Geita terrain is made up of upper to mid-Nyanzian greenschist facies rocks consisting of clastic sedimentary rocks, black shales, Banded Iron Formation (BIF) and felsic volcanoclastics, which are intruded by a variety of mafic to felsic intrusive rocks. Within Geita's tenements, supracrustal rocks present variable thickness and are locally estimated to be more than 500m thick, mostly underlain by the intrusive suites.

The Geita Greenstone belt has been so far separated into three major terrains, namely Nyamulilima Terrain in the west (hosting the Star and Comet, Ridge 8 and Roberts deposits), Geita Terrain in the central part (hosting the Nyankanga, Geita Hill, Lone Cone and Chipaka deposits) and Kukuluma Terrain to the northeast (hosting the Matandani, Kukuluma and Area 3 West deposits). Approximately 78% of the Mineral Resource is situated in the Geita sub-terrain, with 16% in Nyamulilima and 6% in Kukuluma Terrain.

Like most other greenstone sequences, the Geita Greenstone belt has been through a protracted history of deformation, which resulted in a property-scale, multiphase, box-shaped synformal configuration, with 'limbs' trending west-northwest and dipping mostly steeply, connected by a northeast trending 'hinge zone' dipping moderately to northwest. This large-scale architecture conceals both prior and post-deformation events, either as older folding systems, or younger shear arrays developing sub-parallel to the rock packages along its 'hinge and limb' zones. The Geita Terrain comprises mostly the north-easterly 'hinge' zone. To the west, the Nyamulilima Terrain is mostly underlain by a semi-circular structure surrounding intrusive centers, and internally encompasses fold and fault systems of variable scale which may locally control gold mineralisation. The Kukuluma Terrain, on the northeast, trends also west-north-westerly, with sub-vertical limbs being dominant over compressed, multiphase hinge zones. Regional north-north-easterly structures hosting Proterozoic gabbro dykes are also conspicuous geological features in the area.

## EXPLORATION

A large part of the 2012 exploration effort was dedicated to infill drilling programmes in current open pits (Geita Hill, Nyankanga and Star & Comet), as well as at their respective extensions. Limited pre-Mineral Resource drilling programmes were undertaken

to test targets. The infill drilling campaigns aimed at increasing the confidence level on the Mineral Resource and allowing for Ore Reserve conversion.

Since 2011 regional, pre-Mineral Resource exploration drilling has been focused on testing geophysical targets identified by the 2008

Electromagnetic (EM) surveys and 2010 Induced Polarisation (IP) surveys. Twelve EM targets and four IP targets have been drilled

so far. Several bodies of massive sulphides have been intersected, with gold grades ranging from below detection levels up to a few grams per tonne over variable intervals. The latter usually associated to targets including BIF sequences within the local rock package.

The new drilling data set is now being compiled and interpreted so that geological models can be built for each target, allowing for the determination of their exploration potential and ranking for additional work.

Besides ground EM and IP surveys, ground gravity and Natural Source Magneto Audio Tellurics (NSMAT) surveys were also conducted

in 2011 – 2012. The first covered the entire Geita tenements, whilst the latter was tested at Kukuluma Terrain. The results are now

being interpreted in conjunction with the current geological knowledge at the respective scales.

During 2011 and 2012 significant progress has been made in understanding the geological setting and controls of gold mineralisation

in the Geita, Nyamulilima and Kukuluma Terrains, and therefore improving the Mineral Resource modelling process and the predictive

capability of the exploration efforts.

GEITA

{

**103**

CONTINENTAL AFRICA

GEITA  
**continued**  
 PROJECTS

Geita's exploration strategy includes two major projects, namely the Geita underground and refractory ore projects. During 2012, drilling programmes were undertaken to test the continuity of the Nyankanga deposit at depth in the former, and the extensions of

known deposits in the Kukuluma Terrain in the latter.

The Nyankanga underground drilling programme was cut short due to the geological setting of Nyankanga deposit at depth being less

favourable for mineralisation. An intrusive complex underlies the Nyankanga pit towards the southwest and the favourable host rocks

for mineralisation, BIF, are rare. The newly acquired drilling data will enable the geological setting of Nyankanga to be remodelled and

alternative exploration targets to be generated.

The refractory ore drilling programme targeted the potential extensions of Kukuluma, Matandani and Area 3 deposits, where

28 reverse circulation (RC) pre-collared diamond drilling (DD) holes were drilled for a total of 12,049m. Logging and sampling is

underway and the geological modelling will follow in the first quarter of 2013.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Geita

Measured

-

-

-

-

-

Indicated

20 x 20,

40 x 40,

50 x 50

X X -

-

Classification study undertaken in 2011 revealed an optimal spacing.

Inferred

40 x 40,

80 x 50

X X -

–  
Classification study undertaken in  
2012 revealed an optimal spacing.  
Grade/Ore control 5 x 10, 5 x 5

–  
X –

–  
–

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**104**

}



Inclusive Mineral Resource  
as at 31 December 2012

Tonnes  
million

Grade  
g/t

Contained gold

Geita

Category

Tonnes                      Moz

Area 3 West Oxide

Measured

—

—

—

—

Indicated

1.58

1.86

2.94

0.09

Inferred

0.04

1.06

0.05

0.00

Total

1.62

1.83

2.99

0.10

Area 3 West (Refractory Ore)

Measured

—

—

—

—

Indicated

0.27

2.81

0.76

0.02

Inferred

—

—

—

—

Total

0.27

2.81

0.76

0.02  
Chipaka  
Measured  
—  
—  
—  
—  
Indicated  
2.06  
1.59  
3.26  
0.10  
Inferred  
3.87  
1.78  
6.87  
0.22  
Total  
5.93  
1.71  
10.13  
0.33  
Geita Hill (Open pit)  
Measured  
—  
—  
—  
—  
Indicated  
24.80  
2.68  
66.50  
2.14  
Inferred  
1.89  
2.26  
4.27  
0.14  
Total  
26.69  
2.65  
70.77  
2.28  
Geita Hill (Underground)  
Measured  
—  
—  
—  
—  
Indicated  
2.02

3.77  
7.62  
0.25  
Inferred  
3.66  
3.94  
14.44  
0.46  
Total  
5.68  
3.88  
22.06  
0.71  
Kalondwa Hill  
Measured  
—  
—  
—  
—  
Indicated  
—  
—  
—  
—  
Inferred  
1.27  
3.11  
3.97  
0.13  
Total  
1.27  
3.11  
3.97  
0.13  
Kukuluma (Non-Refractory Ore)  
Measured  
—  
—  
—  
—  
Indicated  
0.20  
2.12  
0.43  
0.01  
Inferred  
—  
—  
—  
—  
Total

0.20  
2.12  
0.43  
0.01  
Kukuluma (Refractory Ore)  
Measured  
—  
—  
—  
—  
Indicated  
—  
—  
—  
—  
Inferred  
1.91  
3.47  
6.62  
0.21  
Total  
1.91  
3.47  
6.62  
0.21  
Lone Cone  
Measured  
—  
—  
—  
—  
Indicated  
3.32  
2.18  
7.24  
0.23  
Inferred  
2.50  
2.14  
5.36  
0.17  
Total  
5.82  
2.17  
12.60  
0.40  
Matandani (Non-Refractory Ore)  
Measured  
—  
—  
—

—  
Indicated  
1.97  
1.85  
3.64  
0.12  
Inferred  
0.01  
5.55  
0.03  
0.00  
Total  
1.98  
1.86  
3.67  
0.12  
Matandani (Refractory Ore)  
Measured

—  
—  
—  
—

Indicated  
—  
—  
—  
—

Inferred  
3.73  
3.19  
11.91  
0.38  
Total  
3.73  
3.19  
11.91  
0.38

{  
**105**  
CONTINENTAL AFRICA

GEITA

**continued**

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Geita

Category

Tonnes

Moz

Nyankanga (Open pit) Cut 6

Measured

–

–

–

–

Indicated

0.66

3.44

2.28

0.07

Inferred

0.13

1.66

0.21

0.01

Total

0.79

3.15

2.49

0.08

Nyankanga (Open pit) Cut 7

Measured

–

–

–

–

Indicated

10.23

3.84

39.30

1.26

Inferred

1.53

1.84

2.81

0.09

Total

11.76

3.58

42.11  
1.35  
Nyankanga (Open pit) Cut 8  
Measured  
—  
—  
—  
—  
Indicated  
5.70  
5.51  
31.45  
1.01  
Inferred  
2.54  
1.79  
4.55  
0.15  
Total  
8.24  
4.37  
36.00  
1.16  
Nyankanga (Open pit) Cut 9  
Measured  
—  
—  
—  
—  
Indicated  
0.01  
0.96  
0.01  
0.00  
Inferred  
1.24  
2.91  
3.62  
0.12  
Total  
1.25  
2.89  
3.63  
0.12  
Nyankanga (Open pit) Cut 10  
Measured  
—  
—  
—  
—  
Indicated

8.70  
3.08  
26.85  
0.86  
Inferred  
4.09  
1.53  
6.24  
0.20  
Total  
12.79  
2.59  
33.09  
1.06  
Nyankanga Others  
Measured  
—  
—  
—  
—  
Indicated  
0.07  
2.45  
0.16  
0.01  
Inferred  
1.74  
2.83  
4.92  
0.16  
Total  
1.81  
2.81  
5.08  
0.16  
Nyankanga (Underground)  
Measured  
—  
—  
—  
—  
Indicated  
2.36  
5.12  
12.10  
0.39  
Inferred  
3.04  
4.22  
12.85  
0.41



Total  
5.40  
4.62  
24.95  
0.80  
Ridge 8 (Open pit)  
Measured  
—  
—  
—  
—  
Indicated  
4.17  
1.99  
8.29  
0.27  
Inferred  
0.54  
2.17  
1.16  
0.04  
Total  
4.71  
2.01  
9.45  
0.30  
Ridge 8 (Underground)  
Measured  
—  
—  
—  
—  
Indicated  
1.28  
3.86  
4.94  
0.16  
Inferred  
2.32  
4.30  
9.97  
0.32  
Total  
3.60  
4.14  
14.91  
0.48  
Roberts  
Measured  
—  
—

—  
—  
Indicated  
18.52  
1.30  
24.13  
0.78

Inferred  
0.44  
3.25  
1.41  
0.05  
Total  
18.96  
1.35  
25.54  
0.82

Star and Comet  
Measured  
—  
—  
—  
—

Indicated  
3.41  
4.20  
14.33  
0.46

Inferred  
2.72  
2.85  
7.75  
0.25

Total  
6.13  
3.60  
22.08  
0.71

Inclusive Mineral Resource continued

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**106**

}

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Geita

Category

Tonnes Moz

Stockpile (Full Grade Ore)

Measured

—

—

—

—

Indicated

3.80

2.09

7.93

0.26

Inferred

—

—

—

—

Total

3.80

2.09

7.93

0.26

Stockpile (Marginal Ore)

Measured

—

—

—

—

Indicated

7.41

0.88

6.51

0.21

Inferred

—

—

—

—

Total

7.41

0.88

6.51

0.21

Stockpile (Refractory Ore)

Measured

—  
—  
—  
—

Indicated

1.26  
1.85  
2.33  
0.08

Inferred

—  
—  
—  
—

Total

1.26  
1.85  
2.33  
0.08

Geita

Total

143.03  
2.67  
382.01  
12.28

Exclusive Mineral Resource  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Geita

Category

Tonnes

Moz

Measured

—  
—  
—  
—

Indicated

42.97  
2.68  
115.34  
3.71

Inferred

35.95  
2.74  
98.59

3.17  
Geita  
Total  
78.92  
2.71  
213.93  
6.88

The Exclusive Mineral Resource at Geita includes the underground Mineral Resource plus additional material that occurs between the Ore Reserve pit shell (at a gold price of \$1,300/oz) and the Mineral Resource pit shell (at a gold price of \$2,000/oz). This material is sub economic to mine at the current Ore Reserve gold price and forms potential extensions to the current Life of Mine (LOM) in an elevated gold price environment. A significant portion of this material is in the Inferred Mineral Resource category and infill drilling programmes are planned to upgrade potentially economic areas to Indicated Mineral Resource. Nyankanga Cut 9 contains approximately 0.2Moz of Exclusive Mineral Resource and lies immediately southwest of the Nyankanga Open pit. It could support an additional pushback and drilling will resume once access has been established toward 2015. Further programmes to upgrade confidence in the Geita Hill East & West, Ridge 8, Star & Comet and Ridge 8 Gap pits are planned for 2013 to consolidate 2012 drilling.

The Exclusive Mineral Resource forming part of the mine's business plan comprises approximately 0.88Moz from underground extensions to the Nyankanga open pit and a total of 3.17Moz from Inferred Mineral Resource material located within all the design pits.

While the economic viability of the in-pit material is known, scoping and pre-feasibility studies are currently in progress to determine the economic viability of the underground material. As part of these studies, exploration drives and infill drilling are planned to upgrade the confidence in the Mineral Resource.

In instances where the mineralisation extends down-dip, below the current LOM design pit shell and where it could potentially be economically exploited by underground mining methods, a 35m crown pillar forms part of the Exclusive Mineral Resource below the open pit limits. This material is not planned to be mined.

Inclusive Mineral Resource continued

{

**107**

CONTINENTAL AFRICA

GEITA

**continued**

Mineral Resource below infrastructure

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Geita

Category

Tonnes

Moz

Measured

–

–

–

–

Indicated

5.66

4.35

24.66

0.79

Inferred

9.02

4.13

37.25

1.20

Geita

Total

14.68

4.22

61.91

1.99

Geita

Mineral Resource reconciliation: 2011 to 2012

12.57

-0.61

1.29

-1.25

0.22

0.10

-0.04

0.00

12.28

Ounces (millions)

13.4

13.0

12.6

12.2

11.8

2011

Depletion

Gold price

Cost

Exploration

Methodology

Other

Acquisition/

Disposal

2012

Geita

Ore Reserve reconciliation: 2011 to 2012

4.73

-0.55

-0.19

0.63

0.00

0.66

0.14

0.00

5.42

Ounces (millions)

5.6

5.2

4.8

4.4

4.0

3.6

2011

Depletion Model

change

Change

in

economics

New

ounces

from

projects

Scope

change

Other

Acquisition/

Disposal

2012

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**108**

}

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Geita

Category

Tonnes                      Moz

Area 3 West Oxide

Proved

–

–

–

–

Probable

0.76

2.24

1.70

0.05

Total

0.76

2.24

1.70

0.05

Chipaka

Proved

–

–

–

–

Probable

2.18

1.57

3.43

0.11

Total

2.18

1.57

3.43

0.11

Geita Hill (Open pit)

Proved

–

–

–

–

Probable

17.26



2.60  
 44.82  
 1.44  
 Total  
 17.26  
 2.60  
 44.82  
 1.44  
 Nyankanga (Open pit) Cut 6  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 0.57  
 3.15  
 1.81  
 0.06  
 Total  
 0.57  
 3.15  
 1.81  
 0.06  
 Nyankanga (Open pit) Cut 7  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 9.84  
 3.80  
 37.36  
 1.20  
 Total  
 9.84  
 3.80  
 37.36  
 1.20  
 Nyankanga (Open pit) Cut 8  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 3.76  
 5.15  
 19.39  
 0.62

Total	
3.76	
5.15	
19.39	
0.62	
Nyankanga (Open pit) Cut 9	
Proved	
—	
—	
—	
—	
Probable	
0.75	
2.96	
2.22	
0.07	
Total	
0.75	
2.96	
2.22	
0.07	
Nyankanga (Open pit) Cut 10	
Proved	
—	
—	
—	
—	
Probable	
5.44	
2.99	
16.26	
0.52	
Total	
5.44	
2.99	
16.26	
0.52	
Ridge 8 (Open pit)	
Proved	
—	
—	
—	
—	
Probable	
3.20	
2.00	
6.41	
0.21	
Total	
3.20	
2.00	

6.41  
0.21  
Roberts  
Proved  
—  
—  
—  
—  
Probable  
8.30  
1.39  
11.58  
0.37  
Total  
8.30  
1.39  
11.58  
0.37  
Star and Comet  
Proved  
—  
—  
—  
—  
Probable  
1.86  
5.36  
9.97  
0.32  
Total  
1.86  
5.36  
9.97  
0.32  
Stockpile (Full Grade Ore)  
Proved  
—  
—  
—  
—  
Probable  
3.80  
1.98  
7.54  
0.24  
Total  
3.80  
1.98  
7.54  
0.24  
Stockpile (Marginal Ore)

Proved

—

—

—

—

Probable

7.32

0.84

6.13

0.20

Total

7.32

0.84

6.13

0.20

Geita

Total

65.06

2.59

168.63

5.42

{

**109**

CONTINENTAL AFRICA

GEITA

**continued**

Ore Reserve modifying factors

as at

31 December 2012

Geita

Gold

price

\$/oz

Cut-off

value

g/t Au

Dilution

%

Dilution

g/t

% RRF

(based

on

tonnes)

% RRF

(based

on g/t)

% MRF

#

(based

on

tonnes)

% MRF

#

(based

on g/t)

MCF

%

MetRF

%

Area 3 West (Refractory Ore)

1,300

1.15

—

—

0.00

0.00

105.0

95.0

98.0

59.0

Area 3 West Oxide

1,300

0.80

—

—  
0.00  
0.00  
105.0  
95.0  
98.0  
81.0  
Chipaka  
1,300  
0.69  
—  
—  
0.00  
0.00  
105.0  
95.0  
98.0  
86.0  
Kukuluma  
(Non Refractory Ore)  
1,300  
0.89  
—  
—  
0.00  
0.00  
105.0  
95.0  
98.0  
75.0  
Kukuluma (Refractory Ore)  
1,300  
1.47  
—  
—  
0.00  
0.00  
105.0  
95.0  
98.0  
46.0  
Lone Cone  
1,300  
0.73  
—  
—  
0.00  
0.00  
105.0  
95.0  
98.0

88.0  
 Matandani  
 (Non Refractory Ore)  
 1,300  
 0.76  
 –  
 –  
 0.00  
 0.00  
 105.0  
 95.0  
 98.0  
 84.0  
 Matandani (Refractory Ore)  
 1,300  
 1.33  
 –  
 –  
 0.00  
 0.00  
 105.0  
 95.0  
 98.0  
 50.0  
 Nyankanga (Open pit)  
 Cut 10  
 1,300  
 0.66  
 –  
 –  
 0.00  
 0.00  
 105.0  
 95.0  
 98.0  
 91.0  
 Nyankanga (Open pit)  
 Cut 11  
 1,300  
 0.66  
 –  
 –  
 0.00  
 0.00  
 105.0  
 95.0  
 98.0  
 91.0  
 Nyankanga (Open pit) Cut 6  
 1,300  
 0.66

—  
—  
0.00  
0.00  
105.0  
95.0  
98.0  
91.0  
Nyankanga (Open pit) Cut 7  
1,300  
0.66  
—  
—  
0.00  
0.00  
105.0  
95.0  
98.0  
91.0  
Nyankanga (Open pit) Cut 8  
1,300  
0.66  
—  
—  
0.00  
0.00  
105.0  
95.0  
98.0  
91.0  
Nyankanga (Open pit) Cut 9  
1,300  
0.66  
—  
—  
0.00  
0.00  
105.0  
95.0  
98.0  
91.0  
Nyankanga Others  
1,300  
0.66  
—  
—  
0.00  
0.00  
105.0  
95.0  
98.0



91.0  
 Ridge 8 (Open pit)  
 1,300  
 0.72  
 –  
 –  
 0.00  
 0.00  
 105.0  
 95.0  
 98.0  
 83.0  
 Roberts  
 1,300  
 0.73  
 –  
 –  
 0.00  
 0.00  
 105.0  
 95.0  
 98.0  
 89.0  
 Star and Comet  
 1,300  
 0.76  
 –  
 –  
 0.00  
 0.00  
 110.0  
 90.0  
 98.0  
 88.0  
 Stockpile  
 (Full Grade Ore)  
 1,300  
 0.98  
 –  
 –  
 0.00  
 0.00  
 –  
 –  
 –  
 89.0\*  
 Stockpile  
 (Marginal Ore)  
 1,300  
 0.72  
 –

—  
0.00  
0.00  
—  
—  
—  
89.0\*  
Stockpile  
(Refractory Ore)  
1,300  
1.64  
—  
—  
0.00  
0.00  
—  
—  
—  
52.0\*\*  
Geita Hill (Open pit)  
1,300  
0.73  
—  
—  
0.00  
0.00  
105.0  
95.0  
98.0  
88.0

\* *Average factors from Nyankanga, Geita Hill and Star and Comet*

\*\* *Average factors from Kukuluma and Matandani*

#

*Dilution included in MRF*

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**110**

}

Inferred Mineral Resource in business plan  
as at 31 December 2012

Tonnes  
million

Grade  
g/t

Contained gold  
Geita

Tonnes            Moz

Comment

Area 3 West Oxide

0.00

1.46

0.00

0.00

Inferred ore within design

Geita Hill (Open pit)

1.89

2.26

4.27

0.14

Full Grade Ore from Geita Hill West Cut 3 and East

Cut 3

Nyankanga (Open pit) Cut 6

0.08

2.51

0.20

0.01

Inferred within pit design

Nyankanga (Open pit) Cut 7

1.53

1.84

2.81

0.09

Inferred within pit design

Nyankanga (Open pit) Cut 8

1.64

2.07

3.39

0.11

Inferred within pit design

Nyankanga (Open pit) Cut 9

0.15

2.69

0.41

0.01

Inferred within pit design

Nyankanga (Open pit) Cut 10

1.70

1.61

2.73

0.09  
 Inferred within pit design  
 Ridge 8 (Open pit)  
 0.06  
 1.35  
 0.08  
 0.00  
 Inferred within pit design  
 Star and Comet  
 0.05  
 2.59  
 0.13  
 0.00  
 Inferred within pit design  
 Total  
 7.10  
 1.97  
 14.02  
 0.45

No Inferred Mineral Resource is included in the pit optimisation exercise. Although it does not contribute to the economic assessment of the optimised pit (it is deactivated during the optimisation runs), it is present within the final pit shell as Exclusive Resource.

COMPETENT PERSONS

Category	Name	Professional organisation	Registration number	Relevant experience	Mineral Resource
	Steven Robins		MAusIMM	222 533	17 years
	Jasper Musadaidzwa		MAusIMM	991 333	15 years
					Geita
					0
					20
					40
					60
					80
					100
					120
					0

1  
2  
3  
4  
5  
6  
7  
8  
Grade tonnage curve – Surface (metric)

Tonnes above  
cut-off (millions)

Average  
grade above  
cut-off (g/t)

Cut-off grade (g/t)

12

10

8

6

4

2

0

Tonnes above cut-off

Ave grade above cut-off

Geita

0

5

10

15

20

25

30

35

40

0

1

2

3

4

5

6

7

8

9

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average grade above cut-off (g/t)

Cut-off grade (g/t)

14  
12  
10  
8  
6  
4  
2  
0

Tonnes above cut-off  
Ave grade above cut-off

{

**111**

CONTINENTAL AFRICA

*Australia: Tropicana*

AUSTRALASIA

}

**2012** MINERAL RESOURCE AND ORE RESERVE REPORT

**112**

}

Edgar Filing: ANGLOGOLD ASHANTI LTD - Form 6-K

AngloGold Ashanti operates the Sunrise Dam gold mine in Western Australia and is currently developing the new Tropicana gold mine, also in Western Australia, along with joint venture partner Independence Group Ltd., who hold a 30% stake. Tropicana, a greenfields discovery made by AngloGold Ashanti, is currently under construction and is expected to deliver its first production in 2013. AngloGold Ashanti is managing the Tropicana project along with a large regional exploration programme that covers some 13,500km<sup>2</sup> of tenements along a 600km strike length, considered one of the most prospective regions for new gold discoveries in Australia.

Production from Australasia was steady at 258,000 ounces in 2012, equivalent to 6% of group production. The Inclusive Mineral Resource for Australasia totalled 8.34Moz at year-end, including an Ore Reserve of 3.91Moz.

Inclusive Mineral Resource

Tonnes

million

Grade

g/t

Contained gold

as at 31 December 2012

Category

Tonnes

Moz

Australasia

Measured

36.46

1.70

62.00

1.99

Indicated

71.84

2.10

150.68

4.84

Inferred

14.98

3.13

46.82

1.51

Total

123.28

2.10

259.50

8.34

Ore Reserve

Tonnes

million

Grade

g/t

Contained gold

as at 31 December 2012

Category



Tonnes  
Moz  
Australasia  
Proved  
33.13  
1.76  
58.20  
1.87  
Probable  
26.82  
2.37  
63.55  
2.04  
Total  
59.95  
2.03  
121.75  
3.91

REGIONAL OVERVIEW

AngloGold Ashanti's Australasian assets  
comprise Sunrise Dam and the 70%-owned  
Tropicana project.

Contribution to group production  
(%)

Australasia  
6

Rest of AngloGold Ashanti  
94

Sunrise Dam  
100

Contribution to production by mine  
(%)

{

**113**

AUSTRALASIA

## AUSTRALIA

### COUNTRY OVERVIEW

The Australian assets were acquired by AngloGold Ashanti at the end of 1999 and currently comprise the Sunrise Dam gold mine and the Tropicana gold mine.

AngloGold Ashanti owns 100% of Sunrise Dam gold mine. The Tropicana gold mine is a joint venture with Independence Group NL in which AngloGold Ashanti Australia Limited holds 70%.

The Tropicana deposit represents a discovery in a new gold province in which the joint venture partners have a dominant land position and a competitive advantage in understanding the mineralised system. Exploration potential in the district is high and a number of large targets have been identified.

### MINERAL RESOURCE ESTIMATION

#### Sunrise Dam

The open pit Mineral Resource estimate at Sunrise Dam utilises the geostatistical technique of Multiple Indicator Kriging, whilst the

Golden Delicious deposit has been estimated using Uniform Conditioning. All available geological drill-hole information is validated

for use in the models and the local geology of the deposit is used to classify the drill-hole information into appropriate estimation

domains. Detailed statistical analyses are conducted on each of these domains and this allows for the identification of high-grade

outliers. If these values are anomalous to the general population characteristics they are then cut back to an appropriate upper limit for the population.

Estimation of the underground Mineral Resource uses the geological model boundaries to subdivide all drill-hole data into appropriate

domains. Statistical analyses are performed on these domains and, in a similar manner to that of open-pit estimation; high-grade

outliers are identified and appropriately cut back to an upper limit. Multiple Indicator Kriging is used to produce estimates of average

gold grade of a pre-determined block size. The geostatistical technique of Conditional Simulation has been used to estimate the

Cosmo and GQ ore zones.

#### Tropicana

Uniform Conditioning is used to estimate the open pit Mineral Resource. All available geological drill-hole information is validated

for use in the models and the local geology of the deposit is used to classify the drill-hole information into appropriate geostatistical

domains. Detailed statistical analyses are conducted on each of these domains and this allows for the identification of and cutting of

high-grade outliers.

The underground Mineral Resource estimate uses drilling completed as part of the Havana Deeps pre-feasibility study, targeting the

down plunge and along strike extents of the Havana deposit outside the current Havana open pit. Work completed to date has largely

focused on obtaining the drilling information required to support the study. Detailed mining, metallurgical and other study investigations

are underway and will be completed during 2013. The study will consider the trade-off between open pit and underground mining

options and will provide recommendations as to the optimal mining approach. The geostatistical method of Ordinary Kriging is used to estimate the underground Mineral Resource.

**ORE RESERVE ESTIMATION**

The Ore Reserve is estimated within the current pit design using the relevant Mineral Resource models and updated geotechnical and metallurgical parameters and appropriate operating costs. The recoverable gold Mineral Resource model has been estimated either by a geostatistical technique called Multiple Indicator Kriging or Uniform Conditioning (non-linear geostatistical methods) which estimate the proportion of material recovered by mining above a cut-off grade, assuming a specified selective mining unit (SMU).

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**114**

}

## LOCATION

Sunrise Dam lies some 220km north-northeast of Kalgoorlie and 55km south of Laverton in Western Australia. The mine, 100% owned by AngloGold Ashanti, comprises a large open pit and underground mining complex. Mining is carried out by contractors and ore is treated in a conventional gravity and CIL process plant. The mining of the open pit has been extended to extract the high grade crown pillar at the base of the Mega Pit. The final open pit design depth will reach 500m below surface and is expected to be finished in 2013. The underground mine is undergoing a significant growth phase with production expected to reach 1.9Mt of ore in 2013.

## GEOLOGY

At Sunrise Dam, gold mineralisation is structurally controlled and vein hosted. The style of mineralisation can be differentiated depending on the structure or environment in which it is hosted. There are three dominant domains recognised:

- shear-related and high strain – e.g. Sunrise Shear Zone,
  - stockwork development in planar faults with brittle characteristics (these occur in all rock types and are commonly concentrated at lithofacies contacts within the volcanic stratigraphy or the porphyry margin and within hinge domains within the magnetite shales) – e.g. Western Shear Zone, Watu, Cosmo, Summercloud; and
  - placer-style mineralisation hosted within the fluvial sediments.
- The vein and shear styles of gold mineralisation are introduced primarily during the third and fourth deformation stages and variations in structural style, ore and gangue mineralogy and alteration intensity are observed locally. Secondary (supergene) gold mineralisation is also an important part of the Cleo-Sunrise ore system and is highlighted by extremely high gold grades developed near the base of Tertiary paleochannels and horizontal blankets of mineralisation related to iron redox fronts and associated water tables.

## EXPLORATION

Near-mine exploration at Sunrise Dam is specifically focused on a two-stage strategy of developing and advancing proximal opportunities to the open pit and underground operations, whilst determining long-term opportunities that exist up to 1.5km below the mine. The focus for 2013 will continue to extend the known underground Mineral Resource whilst specific deep drilling programmes to vertical depths up to 2km will be undertaken. These will determine the extent of the main mineralising shoots of Dolly, Midway Shear and the newly delineated Vogue mineralisation. The Vogue mineralisation may prove to be an extensive mineralised system that exploration intends to delineate and develop into an Inferred Mineral Resource in 2013. This work forms part of a Mine Life Extension (MLE) study that will determine the full extent of prospectivity of the Sunrise Dam mine area.

## SUNRISE DAM

{

115

AUSTRALASIA

SUNRISE DAM

**continued**

PROJECTS

The underground Life of Mine (LOM) project seeks to delineate the deep Mineral Resource below the mine area and forms part of the MLE. The extensions of the current mineralisation can be traced to depths in excess of 1.2km vertical and extend over a strike length of 2.5km. This forms the framework for the LOM at Sunrise Dam delivering in excess of 350,000oz per year. A skilled and dedicated exploration team, based at the mine, is well prepared to undertake this challenge that will establish Sunrise Dam as a continued investment and world-class gold producer.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Surface

Measured

25 x 25

X X -

-

-

Indicated

40 x 40

X X -

-

-

Inferred

100 x 100

X X -

-

-

Grade/Ore control 6 x 8

-

X -

-

-

Underground

Measured

-

-

-

-

–  
Indicated  
20 x 20  
X            X            –

–  
Inferred  
50 x 50  
X            X            –

–  
Grade/Ore control    10 x 10  
X            –

–  
–  
–

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**  
**116**  
}

Inclusive Mineral Resource  
as at 31 December 2012

Tonnes  
million

Grade  
g/t

Contained gold  
Sunrise Dam

Category  
Tonnes

Moz  
Golden Delicious

Measured  
0.61

1.69

1.04

0.03

Indicated

1.88

1.50

2.82

0.09

Inferred

0.01

1.38

0.01

0.00

Total

2.50

1.55

3.87

0.12

Stockpile (Open pit)

Measured

14.84

1.09

16.18

0.52

Indicated

–

–

–

–

Inferred

–

–

–

–

Total

14.84

1.09

16.18  
 0.52  
 Underground  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 16.50  
 2.65  
 43.72  
 1.41  
 Inferred  
 6.68  
 3.50  
 23.36  
 0.75  
 Total  
 23.18  
 2.89  
 67.08  
 2.16  
 Stockpile (Underground)  
 Measured  
 0.14  
 4.03  
 0.55  
 0.02  
 Indicated  
 –  
 –  
 –  
 –  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 0.14  
 4.03  
 0.55  
 0.02  
 Sunrise Dam  
 Total  
 40.66  
 2.16  
 87.69  
 2.82  
 Exclusive Mineral Resource



as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Sunrise Dam

Category

Tonnes

Moz

Measured

0.61

1.69

1.04

0.03

Indicated

13.39

1.98

26.47

0.85

Inferred

6.69

3.50

23.37

0.75

Sunrise Dam

Total

20.69

2.46

50.88

1.64

The Exclusive Mineral Resource includes the entire Golden Delicious Mineral Resource as detailed Ore Reserve estimation and mine

planning is yet to take place. In the underground mine, a large portion of Indicated Mineral Resource sits in the Exclusive Mineral

Resource due to the material being lower grade and therefore failing to meet the Ore Reserve cut-off grade requirements. The entire

Inferred Mineral Resource in the underground mine sits in the Exclusive Mineral Resource. The majority of this Inferred material

is located in the deeper parts of the underground mine where the drill density is not yet adequate for the Mineral Resource to be

considered in the Ore Reserve definition process.

Sunrise Dam

Mineral Resource reconciliation: 2011 to 2012

2.97

-0.24

0.00

0.00

0.66

-0.46

-0.12

0.00  
2.82  
Ounces (millions)  
3.4  
3.2  
3.0  
2.8  
2.6  
2011  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
Sunrise Dam  
Ore Reserve reconciliation: 2011 to 2012  
1.53  
-0.24  
-0.13  
0.01  
0.00  
0.02  
0.00  
0.00  
1.18  
Ounces (millions)  
1.6  
1.5  
1.4  
1.3  
1.2  
1.1  
2011  
Depletion Model  
change  
Change  
in  
economics  
New  
ounces  
from  
projects  
Scope

change  
Other  
Acquisition/  
Disposal  
2012  
{  
**117**  
AUSTRALASIA

SUNRISE DAM

**continued**

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Sunrise Dam

Category

Tonnes

Moz

Stockpile (Open pit)

Proved

14.84

1.09

16.18

0.52

Probable

—

—

—

—

Total

14.84

1.09

16.18

0.52

Underground

Proved

—

—

—

—

Probable

4.98

4.03

20.07

0.65

Total

4.98

4.03

20.07

0.65

Stockpile (Underground)

Proved

0.14

4.03

0.55

0.02  
 Probable  
 –  
 –  
 –  
 –  
 Total  
 0.14  
 4.03  
 0.55  
 0.02  
 Sunrise Dam  
 Total  
 19.97  
 1.84  
 36.81  
 1.18  
 Ore Reserve modifying factors  
 % RRF  
 % MRF  
 as at  
 31 December 2012  
 Sunrise Dam  
 Gold  
 price  
 \$/oz  
 AUD/\$  
 exchange  
 rate  
 Cut-off  
 value  
 g/t Au  
 Stoping  
 width  
 cm  
 Dilution  
 %  
 Dilution  
 g/t  
 (based  
 on  
 tonnes)  
 % RRF  
 (based  
 on g/t)  
 (based  
 on  
 tonnes)  
 % MRF  
 (based  
 on g/t)

MCF

%

MetRF

%

Underground –

Stockpile

1,300

1.02

2.71

–

10.0

0.20

30.4

46.6

92.9

92.9 100.0

85.2

Underground

1,300

1.02

2.71

2,600.0

10.0

0.20

–

–

–

– 100.0

85.2

Surface – Stockpile

(Open pit)

1,300

1.02

0.60;

0.80\*

–

0.0

0

100.0

100.0

100.0

100.0 100.0

85.5

\* Oxide cutoff = 0.60 g/t

Inferred Mineral Resource in business plan

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Sunrise Dam

Tonnes

Moz

Comment

Underground

0.37

1.89

0.71

0.02

Top of Vogue bulk development, will be converted to  
Indicated in Q2 2013

Total

0.37

1.89

0.71

0.02

Inferred Mineral Resource in the business plan for 2013 plan will come from bulk sampling development in the top of Vogue domain, comprised of an estimated amount of 373,000 tonnes. This part of Vogue will be converted to an Indicated Mineral Resource during the bulk development process.

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**118**

}

COMPETENT PERSONS

Category

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Surface

Mineral Resource

Fraser Clark

MAusIMM

226 390

11 years

Ore Reserve

Peter Merry

MAusIMM

306 163

31 years

Underground

Mineral Resource

Fraser Clark

MAusIMM

226 390

11 years

Ore Reserve

Salih Ramazan

MAusIMM

222 870

10 years

Sunrise Dam

0

2

4

6

8

10

12

14

16

18

0.00 0.25 0.50

1.00

0.75

1.25 1.50 1.75 2.00 2.25 2.50 2.75 3.00

Grade tonnage curve – Surface (metric)

Tonnes above

cut-off (millions)



Average  
grade above  
cut-off (g/t)

Cut-off grade (g/t)

4.0  
3.5  
3.0  
2.5  
2.0  
1.5  
1.0  
0.5  
0.0

Tonnes above cut-off

Ave grade above cut-off

Sunrise Dam

0  
20  
40  
60  
80  
100  
120  
140  
0  
1  
2  
4  
3  
5  
6  
7  
8  
9  
10

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average grade above cut-off (g/t)

Cut-off grade (g/t)

20  
16  
12  
8  
4  
0

Tonnes above cut-off

Ave grade above cut-off

{

**119**

AUSTRALASIA

## TROPICANA LOCATION

The Tropicana gold project is located 330km east-northeast of Kalgoorlie, Western Australia. The mineral deposit is hosted in the eastern margin of the Yilgarn Craton. Tropicana is the first deposit discovered in this remote portion of the Great Victoria Desert and is widely regarded as defining an emerging greenfields gold province. Together, the Tropicana, Havana, Havana South and Boston Shaker deposits define a northeast trending mineralised corridor, approximately 1.2km wide and 5km long, that has been tested to vertical depth of over 1,200m. The Mineral Resource remains open down-dip from Tropicana, Havana and Boston Shaker deposits and has potential for extension to the north and south. Neither the immediate metamorphic host rocks nor the mineralised zones are exposed at surface due to the presence of widespread cover sequences, between 0.5m and 15m thick.

## GEOLOGY

The Tropicana deposit comprises a mineralised zone up to 50m thick, predominantly hosted in quartzo-feldspathic gneiss, comprised of subordinate thin (3m to 5m), discontinuous mineralised lenses that typically return intercepts of >0.5g/t gold, with a garnet gneiss dominated hanging wall package. The Havana deposit comprises a lower, laterally continuous, higher-grade lode up to 50m thick that is overlain, in the central and southern parts of the proposed pit, by stacked, typically lower-grade and thinner (up to 25m thick) mineralised zones dominantly hosted in quartzo-feldspathic gneiss, again with a garnet gneiss dominated hanging wall. Mineralisation within the ore zones is accompanied by pyrite (2% to 8%) with accessory pyrrhotite, chalcopyrite, electrum and other minor sulphides and tellurides. The gold mineralisation is related to shear planes that postdate the main gneissic fabric developed during peak granulite-facies metamorphism.

## EXPLORATION

The Tropicana joint venture has assembled a dominant landholding within an emerging greenfields belt hosting the Tropicana gold project. Maximising the value of the known Mineral Resource and capitalising on the strategic ground holding is dependent on the timely application of exploration expenditure. The progressive focusing of expenditure in tenure shown to be more prospective will increase the probability of new discoveries. This approach is being applied by the joint venture and will be achieved through sustained investment in a systematic exploration programme. Capitalising on the joint venture 'first mover' advantage is dependent on systematic exploration of regional targets (further than 60km from Tropicana), near resource targets (closer than 60km), and extensions of the known Mineral Resource that form part of the underground Mineral Resource. The exploration strategy aims to balance short to longer term value creation through sustained deployment of expenditure within the portfolio of early, mid and later stage prospects and targets. The key objectives for 2013 can be summarised as follows:

-

exploration of priority targets on the mining leases, including extensions to Boston Shaker, Tropicana and northeast of Havana as

well as targets at Springbok and north and south of the known mineralisation;

- aircore (AC) drill testing supported by ground geophysics (IP) across conceptual targets and geochemical targets to define prospects

for reverse circulation (RC) and diamond drill (DD) testing;

- RC and DD testing of key prospects (Rosetta, Ninja, Monsoon, Beetle Juice, Mojito, Long Island, Wild Voodoo, Voodoo Child) with

potential to deliver both satellite and stand-alone Mineral Resources; and

- advance the understanding of the orogen through geochronology, metamorphic, protolith geochemical studies and geological

mapping to further define prospective domains to focus exploration activities.

#### PROJECTS

An extensive drilling programme has been completed for the Havana Deeps pre-feasibility study, which has now entered the study

phase and is due for completion in Q3 2013. This study will examine the trade-off between open pit and underground mining of the

Havana Deeps deposit. Potential exists for a portion of the current Havana Deeps underground Mineral Resource to be mined via a

large open pit cutback on the Havana pit.

#### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

120

}

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Tropicana

Measured

25 x 25

–

–

–

Indicated

50 x 50

–

–

–

Inferred

100 x 100

–

–

–

Grade/Ore control 10 x 12

–

–

–

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Tropicana

Category

Tonnes Moz

Boston Shaker – BS01

Measured

–

–

–

–

Indicated

2.34

2.29  
5.35  
0.17  
Inferred  
0.07  
2.58  
0.17  
0.01  
Total  
2.41  
2.29  
5.52  
0.18  
Boston Shaker Shell  
Measured  
—  
—  
—  
—  
Indicated  
2.49  
2.82  
7.01  
0.23  
Inferred  
2.02  
3.14  
6.35  
0.20  
Total  
4.51  
2.96  
13.36  
0.43  
Tropicana Starter pit – TP01  
Measured  
4.79  
2.00  
9.59  
0.31  
Indicated  
0.17  
1.03  
0.18  
0.01  
Inferred  
0.00  
0.99  
0.00  
0.00  
Total

4.96  
1.97  
9.77  
0.31  
Tropicana pit – TP02  
Measured  
3.93  
1.87  
7.34  
0.24  
Indicated  
5.94  
1.90  
11.32  
0.36  
Inferred  
0.01  
1.91  
0.03  
0.00  
Total  
9.88  
1.89  
18.69  
0.60  
Tropicana Shell  
Measured  
0.12  
1.36  
0.17  
0.01  
Indicated  
3.04  
1.82  
5.53  
0.18  
Inferred  
1.47  
1.99  
2.92  
0.09  
Total  
4.63  
1.86  
8.62  
0.28  
Havana Starter pit – HA01  
Measured  
9.40  
2.29  
21.52

0.69  
Indicated  
0.57  
1.77  
1.02  
0.03  
Inferred  
—  
—  
—  
—  
Total  
9.97  
2.26  
22.54  
0.72  
Havana Stage 3 – HA03  
Measured  
1.59  
1.90  
3.02  
0.10  
Indicated  
4.24  
1.87  
7.92  
0.25  
Inferred  
0.00  
1.02  
0.00  
0.00  
Total  
5.83  
1.87  
10.94  
0.35  
Havana Stage 4 and 5 – HA05  
Measured  
0.68  
2.75  
1.87  
0.06  
Indicated  
5.67  
1.75  
9.91  
0.32  
Inferred  
0.00  
2.88



0.00  
0.00  
Total  
6.35  
1.86  
11.78  
0.38  
Havana Stage 6 – HA06  
Measured  
–  
–  
–  
–  
Indicated  
7.60  
1.37  
10.40  
0.33  
Inferred  
0.00  
1.24  
0.00  
0.00  
Total  
7.60  
1.37  
10.40  
0.33  
{  
**121**  
AUSTRALASIA

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Tropicana

Category

Tonnes                      Moz

Havana Stage 6 Shell

Measured

–

–

–

–

Indicated

2.09

1.43

3.00

0.10

Inferred

0.28

1.66

0.46

0.01

Total

2.37

1.46

3.46

0.11

Havana Shell

Measured

0.04

5.00

0.18

0.01

Indicated

17.64

2.07

36.57

1.18

Inferred

0.18

2.43

0.43

0.01

Total

17.86

2.08

37.18

1.20

Stockpile (Open pit)

Measured

0.32

1.67

0.53

0.02

Indicated

–

–

–

–

Inferred

–

–

–

–

Total

0.32

1.67

0.53

0.02

Underground

Measured

–

–

–

–

Indicated

1.66

3.58

5.93

0.19

Inferred

4.26

3.07

13.07

0.42

Total

5.92

3.21

19.00

0.61

Tropicana

Total

82.62

2.08

171.81

5.52

Exclusive Mineral Resource

as at 31 December 2012

Tonnes

million	
Grade	
g/t	
Contained gold	
Tropicana	
Category	
Tonnes	Moz
Measured	
2.72	
1.02	
2.76	
0.09	
Indicated	
31.63	
1.92	
60.66	
1.95	
Inferred	
8.30	
2.83	
23.45	
0.75	
Tropicana	
Total	
42.65	
2.04	
86.87	
2.79	

The Exclusive Mineral Resource includes Inferred Mineral Resource at depth in the designed pits, as well as the deeper portions of the Havana Deeps underground Mineral Resource, which are not yet drilled to a level of confidence to establish an Ore Reserve.

TROPICANA

**continued**

Inclusive Mineral Resource continued

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**122**

}

Mineral Resource below infrastructure  
as at 31 December 2012

Tonnes  
million

Grade  
g/t

Contained gold

Tropicana

Category

Tonnes                      Moz

Measured

–

–

–

–

Indicated

1.66

3.58

5.93

0.19

Inferred

4.26

3.07

13.07

0.42

Tropicana

Total

5.92

3.21

19.00

0.61

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Tropicana

Category

Tonnes                      Moz

Boston Shaker – BS01

Proved

–

–

–

–

Probable

2.34

2.29

5.35  
0.17  
Total  
2.34  
2.29  
5.35  
0.17  
Tropicana Starter pit – TP01  
Proved  
4.32  
2.15  
9.30  
0.30  
Probable  
0.06  
1.16  
0.07  
0.00  
Total  
4.38  
2.14  
9.37  
0.30  
Tropicana pit – TP02  
Proved  
3.54  
2.00  
7.09  
0.23  
Probable  
5.19  
2.07  
10.73  
0.35  
Total  
8.73  
2.04  
17.82  
0.57  
Havana Starter pit – HA01  
Proved  
7.95  
2.48  
19.73  
0.63  
Probable  
0.47  
1.93  
0.91  
0.03  
Total

8.42  
2.45  
20.64  
0.66  
Havana Stage 3 – HA03  
Proved  
1.39  
2.12  
2.96  
0.10  
Probable  
3.53  
2.13  
7.53  
0.24  
Total  
4.92  
2.13  
10.49  
0.34  
Havana Stage 4 and 5 – HA05  
Proved  
0.65  
2.90  
1.87  
0.06  
Probable  
4.70  
2.05  
9.62  
0.31  
Total  
5.35  
2.15  
11.49  
0.37  
Havana Stage 6 – HA06  
Proved  
–  
–  
–  
–  
Probable  
5.54  
1.67  
9.27  
0.30  
Total  
5.54  
1.67  
9.27

0.30  
 Stockpile (Open pit)

Proved

0.29

1.76

0.51

0.02

Probable

–

–

–

–

Total

0.29

1.76

0.51

0.02

Tropicana

Total

39.99

2.12

84.94

2.73

Tropicana

Mineral Resource reconciliation: 2011 to 2012

4.49

0.00

0.00

0.00

0.06

0.98

0.00

0.00

5.52

Ounces (millions)

5.6

5.4

5.2

5.0

4.8

4.6

4.4

4.2

2011

Deple-

tion

Gold

price

Cost

Explo-

ration



Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
Tropicana  
Ore Reserve reconciliation: 2011 to 2012

2.74  
0.00  
0.00  
0.00  
0.00  
0.00  
-0.01  
0.00  
2.73

Ounces (millions)  
2.739  
2.737  
2.735  
2.733  
2.731  
2.729

2011  
Depletion Model  
change  
Change  
in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Other  
Acquisition/  
Disposal  
2012

{  
**123**  
AUSTRALASIA

Ore Reserve modifying factors

% RRF

% MRF

as at

31 December 2012

Tropicana

Gold

price

\$/oz

AUD/\$

exchange

rate

Cut-off

value

g/t Au

Dilution

%

Dilution

g/t

(based

on

tonnes)

% RRF

(based

on g/t)

(based

on

tonnes)

% MRF

(based

on g/t)

MCF

%

MetRF

%

Boston Shaker –

BS01

1,300

1.02

0.70

0.0

0.00

100.0

100.0

100.0

100.0

100.0

90.0

Havana Stage 3 –

HA03

1,300

1.02  
0.70  
0.0  
0.00  
100.0  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0  
Havana Stage 4  
and 5 – HA05  
1,300  
1.02  
0.70  
0.0  
0.00  
100.0  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0  
Havana Stage 6 –  
HA06  
1,300  
1.02  
0.70  
0.0  
0.00  
100.0  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0  
Havana Starter pit –  
HA01  
1,300  
1.02  
0.70  
0.0  
0.00  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0  
Stockpile (Open pit)  
1,300

1.02  
0.70  
0.0  
0.00  
100.0  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0

Tropicana pit – TP02

1,300  
1.02  
0.70  
0.0  
0.00  
100.0  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0

Starter pit – TP01

1,300  
1.02  
0.70  
0.0  
0.00  
100.0  
100.0  
100.0  
100.0  
100.0  
100.0  
90.0

Inferred Mineral Resource in business plan

Inferred Mineral Resource within the open pit design is included in the business plan, but makes up only a small proportion (<1%) of the total mineralised material.

COMPETENT PERSONS

Category

Name

Professional  
organisation

Registration  
number

Relevant  
experience

Mineral Resource

Mark Kent

MAusIMM

203 631

15 years  
Ore Reserve  
Salih Ramazan  
MAusIMM  
222 870

10 years  
TROPICANA

**continued**

Tropicana

0

100

200

300

400

500

600

700

800

0.00

0.25

0.50

1.00

0.75

1.25

1.50

1.75

2.00

Grade tonnage curve – Surface (metric)

Tonnes above  
cut-off (millions)

Average  
grade above  
cut-off (g/t)

Cut-off grade (g/t)

4.0

3.5

3.0

2.5

2.0

1.5

1.0

0.5

0.0

Tonnes above cut-off

Ave grade above cut-off

Tropicana

0

1

2

3

4

5  
6  
7  
0  
1  
2  
4  
3  
5  
6  
7  
8  
9  
10

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average grade

above cut-off (g/t)

Cut-off grade (g/t)

11

9

7

5

3

1

Tonnes above cut-off

Ave grade above cut-off

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**124**

}

*Australia: Tropicana*

{

**125**

AUSTRALASIA

AMERICAS

}

*Colombia: La Colosa*

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**126**

}



Edgar Filing: ANGLOGOLD ASHANTI LTD - Form 6-K

AngloGold Ashanti has the Cripple Creek & Victor (CC&V, 100%) mine in the USA, the Cerro Vanguardia SA mine in Argentina (92.5%),

AngloGold Ashanti Córrego do Sítio Mineração operations and the Mineração Serra Grande, both in Brazil (both 100%).

The Americas represents one of the most significant growth regions for AngloGold Ashanti. The main projects are in Colombia with

additional projects and future mine expansions in progress in the USA, Argentina and Brazil maintaining and upgrading the current production profile.

Combined production from these operations increased by 6% to 0.95Moz ounces of gold in 2012, equivalent to 24% of group production.

The total Inclusive Mineral Resource across the Americas was 61.59Moz at the end of 2012 and the Ore Reserve was 11.01Moz.

AngloGold Ashanti also conducts an extensive greenfield exploration programme across the Americas, most notably in Colombia,

where it holds a significant land position and has made two greenfield exploration discoveries – Gramalote and La Colosa – which

together account for 29.39Moz of the Americas’ Inclusive Mineral Resource.

Inclusive Mineral Resource

Tonnes

million

Grade

g/t

Contained gold

as at 31 December 2012

Category

Tonnes

Moz

Americas

Measured

309.37

1.05

323.43

10.40

Indicated

301.17

1.28

384.65

12.37

Inferred

1,166.02

1.04

1,207.47

38.82

Total

1,776.55

1.08

1,915.55

61.59

Ore Reserve

Tonnes  
million  
Grade  
g/t  
Contained gold  
as at 31 December 2012

Category

Tonnes

Moz

Americas

Proved

174.55

1.04

181.16

5.82

Probable

105.74

1.53

161.28

5.19

Total

280.29

1.22

342.44

11.01

#### REGIONAL OVERVIEW

Contribution to group production

(%)

Americas

24

Rest of AngloGold Ashanti

76

AGA Mineração

41

CC&V

26

Cerro Vanguardia

23

Serra Grande

10

Contribution to production by mine

(%)

The Americas Region is an important growth area for AngloGold Ashanti, with operations in Argentina, Brazil and the United States and projects in Colombia.

{

**127**

AMERICAS

## COUNTRY OVERVIEW

AngloGold Ashanti has a single operation in Argentina, the Cerro Vanguardia mine, which is a joint venture with Formicruz (the province of Santa Cruz). The province of Santa Cruz holds 7.5% and the remaining 92.5% belongs to AngloGold Ashanti.

## MINERAL RESOURCE ESTIMATION

The geological model is a critical part of the Mineral Resource estimation process. The mineralisation boundaries for each geological entity (veins, stock work and wall rock) are defined from the detailed logging of all geological drill holes. This data is validated and the information is then used to create a three dimensional model. This model is subsequently overlain with a 5m x 25m x 5m block model.

The block sizes used are chosen to represent the dimensions in which the deposit is intended to be mined. Volumetric measurements of the deposit are subsequently computed in the system using the relevant block dimensions. Ordinary

Kriging is used to perform the grade interpolation and field tests are conducted to determine appropriate *in-situ* densities.

Conditional Simulations are performed in the main deposits for uncertainty assessment and the Mineral Resource is then classified into

the Measured, Indicated and Inferred Mineral Resource categories according to stringent AngloGold Ashanti guidelines.

## ORE RESERVE ESTIMATION

The appropriate Mineral Resource models are used as the basis for the Ore Reserve. All relevant modifying factors such as mining

dilution and costs are used in the Ore Reserve conversion process. This is based on the original block grades and tonnage and

includes waste material (both internal and external). Appropriate Ore Reserve cut-off grades are applied and all blocks above this

cut-off are reported.

It is important to emphasise the importance of the silver during the optimisation of the pits, since silver is a significant by-product at

Cerro Vanguardia. The ratio of silver to gold commonly ranges from 10 to 15g/t of silver per 1g/t of gold.

Cerro Vanguardia uses conventional open-pit mining with a doubled bench height of 20m and underground methods.

Open-pit

mining is distributed between multiple operating pits, typically three to five at any one time; depending on the plant feed requirements.

Currently, there are three underground mines which are mined at same time. Waste dumps and heap-leach stockpiles are located

adjacent to each pit. Plant grade ore feed is trucked to either the long-range or short-range stockpiles in order to smooth out the head

grades and avoid recovery losses due to higher than planned silver grades.

## ARGENTINA

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

128

}

## CERRO VANGUARDIA

### LOCATION

Cerro Vanguardia is located in Santa Cruz Province, southern Argentina, approximately 110 km north-northwest of the coastal town of San Julián. The mining lease encompasses an area of approximately 540km<sup>2</sup>. Access to the area is by plane from Buenos Aires to Comodoro Rivadavia or Rio Gallegos and subsequently by road to the mine site.

### GEOLOGY

Cerro Vanguardia is located in the central portion of the 60,000km<sup>2</sup> Deseado Massif, one of the most extensive volcanic complexes in southern Patagonia, Argentina. The Deseado Massif consists of Paleozoic low-grade metamorphic basement rocks, unconformably overlain by a thick sequence of Lower to Upper Jurassic volcanic and volcanoclastic rocks of intermediary and acidic composition.

These older rocks are exposed in erosional windows through overlying Cretaceous sediments and Tertiary to Quaternary basalts.

The Chon Aike Formation (Middle to Upper Jurassic volcanics) hosts a low sulphidation epithermal type gold and silver deposit.

The thickness of the ignimbrite sequence is estimated to have exceeded 1,000m, but some lateral thickness variations have been

identified across the district. Epithermal Au-Ag bearing structures cut across all Jurassic rocks in the stratigraphy. The two main

ignimbrite units, Masiva-Lajosa and Granosa, host the majority of mineralised veins. The Masiva-Lajosa ignimbrite occurs at the

top of the sequence whilst the Granosa ignimbrite occurs towards the bottom. These two ignimbrites are separated by two thinner,

polymictic ignimbrite units (Brechosa and Brechosa Base) and a sequence of stratified crystal to ash rich tuffs. The base of the

sequence is a mixed unit of stratified ignimbrite intercalated with fine-grained tuffs.

The mineralisation is concentrated in steeply dipping quartz veins that cut the flat-lying ignimbrites and volcanoclastic rocks. The Cerro

Vanguardia district contains around 100 gold and silver-bearing epithermal veins for a cumulative exposed vein strike extension of

more than 240km. Fifty seven veins are currently known to contain economic gold and silver mineralisation.

All veins at Cerro Vanguardia consist mainly of quartz, adularia and minor electrum, native gold, silver sulphides and native silver as

fine-grained disseminations. Vein textures are mainly characterised by pseudomorphic quartz-lattice textures, colloform-crustiform

banding, massive to vuggy quartz veins and breccias.

### EXPLORATION

The 2012 exploration programme included 44,000m of diamond drilling (DD), 23,000m of reverse circulation (RC) drilling and more

than 8,000m of trenching. This allowed the current Mineral Resource to be increased to contain approximately 400,000oz of gold.

The objectives for the 2012 drilling programme were as follows:

- incorporate an additional 300,000oz in the Mineral Resource;
- 
- define new targets for 2013; and
- 
- incorporate low grade targets for heap leach operation.

The main veins drilled during 2012 were Loma del Muerto, Lucy, Vanguardia 3, Fortuna, Luciana. Gabriela vein is located in the north of the central area and has mineralisation from surface to 200m. The Fortuna vein is also in the north of the central area and recent drilling has extended its potential northwards and deeper to 150m. The Loma del Muerto vein, one of the largest in Cerro Vanguardia, is located in the central area and its mineralisation extends from 20m down to a depth of 300m. The Luciana vein is located in the north of the central area and mineralisation is associated with several quartz veins, yielding well-mineralised intervals to a depth of 300m. The Lucy vein is located in the south of the central area and the mineralisation is associated with three quartz veins and stockworks, extending from 30m down to 350m. Osvaldo Diez is located in the core of the central area and the mineralisation extends from surface to 200m deep. Vanguardia 3 is located in the northern area and mineralisation extends from surface to 200m deep. Verónica is located in the northwestern of the central area and mineralisation extends to a depth of 175m. The additional Mineral Resource that was generated was separated into full-grade vein material and low-grade heap-leach material.

{

**129**

AMERICAS

PROJECTS

Cerro Vanguardia currently mines from multiple open pits that are up to 200m deep. The highest grade and thickest veins were mined first to maximise the net present value. Mining costs and strip ratios have increased as grades have decreased over the years. Higher gold prices have extended the life of Cerro Vanguardia, but at higher stripping ratios and operating costs. The recent start up of the heap leach turned low-grade material associated with some veins into new exploration targets. A study to start mining open pits of exclusively low-grade ore for heap leach is ongoing. Mapping and exploration is also focused to discover domes and other potential bulk-tonnage, low-grade mineralisation deposits not previously investigated within the district. The underground mining at Cerro Vanguardia is complementing the current open-pit production. The tonnage from the open pits will decrease to an average of 800,000tpa as the highest stripping ratio open pits are replaced with underground operations. The underground mines are expected to increase their production to 230,000tpa. There are currently two veins being mined from underground: Mangas and Osvaldo Diez. Underground development is also taking place at Osvaldo 4 and Osvaldo 10 and there are several more projects planned, such as Cuncuna, Zorro, Osvaldo 8, Osvaldo 9, Osvaldo 12, Luciana 3, Loma del Muerto, Serena, Liliana and Verónica.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling	Mine/Project	Category	Spacing	m (-x-)	Diamond	RC	Blast-hole	Other	Comments
Measured	Cerro Vanguardia	3 x 15,	12.5 x 5	-	X	-	-	-	-
Indicated	Cerro Vanguardia	40 x 40	-	-	-	-	-	-	-
Inferred	Cerro Vanguardia	80 x 80	-	-	-	-	-	-	-

–  
 –  
 Grade/Ore control 3 x 15,  
 12.5 x 5  
 –  
 X –  
 X Channel sampling only for  
 underground  
 Inclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Cerro Vanguardia  
 Category  
 Tonnes  
 Moz  
 Vein Resources (Open pit)  
 Measured  
 1.60  
 6.10  
 9.78  
 0.31  
 Indicated  
 13.89  
 5.08  
 70.49  
 2.27  
 Inferred  
 2.88  
 4.95  
 14.26  
 0.46  
 Total  
 18.37  
 5.15  
 94.53  
 3.04  
 Heap leach  
 Measured  
 9.75  
 0.69  
 6.71  
 0.22  
 Indicated  
 20.29  
 0.48  
 9.79  
 0.31

Inferred

3.86

0.49

1.89

0.06

Total

33.90

0.54

18.39

0.59

Vein Resources (Underground)

Measured

0.25

8.02

1.99

0.06

Indicated

2.73

9.37

25.61

0.82

Inferred

0.75

8.25

6.19

0.20

Total

3.73

9.05

33.79

1.09

Cerro Vanguardia

Total

55.99

2.62

146.72

4.72

**CERRO VANGUARDIA continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**130**

}



*Argentina: Cerro Vanguardia*

{

**131**

AMERICAS

**CERRO VANGUARDIA continued**

Exclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Cerro Vanguardia

Category

Tonnes

Moz

Measured

2.14

2.55

5.45

0.18

Indicated

31.31

1.69

52.91

1.70

Inferred

7.49

2.98

22.34

0.72

Cerro Vanguardia

Total

40.94

1.97

80.70

2.59

The Exclusive Mineral Resource is primarily located in the volume lying between the pit design and the Mineral Resource shell and is

due to the difference in the economic parameters that have been used. In marginal deposits, where the grade of Au and Ag are above

the Mineral Resource cut-off but below the Ore Reserve cut-off, significant zones of Exclusive Mineral Resource will be generated. Very

deep Mineral Resource will also not be converted in the near term to Ore Reserve and is therefore listed as Exclusive Mineral Resource.

Inclusive Mineral Resource by-product: Silver (Ag)

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained silver

Cerro Vanguardia

Category

Tonnes

Moz

Measured

11.60

30.87

358.00

11.51

Indicated

36.91

63.18

2,331.88

74.97

Inferred

7.49

79.51

595.41

19.14

Cerro Vanguardia

Total

56.00

58.67

3,285.29

105.62

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Cerro Vanguardia

Category

Tonnes

Moz

Vein Resources (Open pit)

Proved

1.16

5.83

6.75

0.22

Probable

6.39

5.23

33.41

1.07

Total

7.55

5.32

40.16

1.29

Heap Leach

Proved

9.18

0.66

6.09

0.20

Probable

2.46

0.46

1.13

0.04

Total

11.64

0.62

7.22

0.23

Vein Resources (Underground)

Proved

0.11

6.12

0.65

0.02

Probable

2.06

7.37

15.17

0.49

Total

2.17

7.31

15.82

0.51

Cerro Vanguardia

Total

21.35

2.96

63.20

2.03

Cerro Vanguardia

Mineral Resource reconciliation: 2011 to 2012

4.41

-0.25

0.00

0.00

0.38

0.18

0.00

0.00

4.72

Ounces (millions)

4.8

4.7

4.6

4.5  
4.4  
4.3  
4.2  
4.1  
4.0  
2011  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
Cerro Vanguardia  
Ore Reserve reconciliation: 2011 to 2012  
2.22  
-0.26  
0.06  
-0.05  
0.00  
0.07  
0.00  
0.00  
2.03  
Ounces (millions)  
2.25  
2.20  
2.15  
2.10  
2.05  
2.00  
1.95  
1.90  
2011  
Depletion Model  
change  
Change  
in  
economics  
New  
ounces  
from  
projects  
Scope

change

Other

Acquisition/

Disposal

2012

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**132**

}

Ore Reserve modifying factors

as at

31 December 2012

Cerro Vanguardia

Gold

price

\$/oz

ARS/\$

exchange

rate

Cut-off

value

g/t Au

Dilution

%

Dilution

g/t

% RRF

(based

on

tonnes)

% RRF

(based

on g/t)

% MRF

(based

on

tonnes)

% MRF

(based

on g/t)

MCF

%

MetRF

%

Heap Leach

1,500

4.30

0.35

–

–

–

–

–

–

100.0

61.3

Vein Resources

(Open pit)

1,500

4.30

2.24  
 45.0  
 -  
 -  
 -  
 97.0  
 96.0  
 93.0  
 94.3  
 Vein Resources  
 (Underground)  
 1,500  
 4.30  
 2.50  
 30.0  
 -  
 -  
 -  
 -  
 -  
 93.0  
 94.3  
 Inferred Mineral Resource in business plan  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Cerro Vanguardia  
 Tonnes  
 Moz  
 Comment  
 Vein Resources (Open pit)  
 0.51  
 4.09  
 2.06  
 0.07  
 Represent 5% of Open pit schedule  
 Heap Leach  
 0.16  
 0.50  
 0.08  
 0.00  
 Represent 2% of Heap Leach schedule  
 Vein Resources (Underground)  
 0.62  
 7.09  
 4.42  
 0.14  
 Represent 22% of Underground schedule



Total  
 1.29  
 5.09  
 6.56  
 0.21

The Inferred Mineral Resource that has been included in the pit design is not included in the Ore Reserve statement. These resources are normally located in the deep and lateral zones of the Mineral Resource models. In order for ore from the Inferred Mineral Resource to be included in the production plan, it must be upgraded by infill drilling.

Ore Reserve by-product: Silver (Ag)  
 as at 31 December 2012

Tonnes  
 million

Grade  
 g/t

Contained silver  
 Cerro Vanguardia

Category

Tonnes	Moz
--------	-----

Proved

10.44

24.47

255.58

8.22

Probable

10.90

92.77

1,011.63

32.52

Cerro Vanguardia

Total

21.34

59.36

1,267.21

40.74

COMPETENT PERSONS

Category

Name

Professional  
 organisation

Registration  
 number

Relevant  
 experience

Mineral Resource

Juan Paredes

MAusIMM

227 738

16 years

Ore Reserve

Jorge Sanguin

MAusIMM

310 925

20 years

Cerro Vanguardia

0

2

4

6

8

10

12

14

16

18

20

0

1

2

4

3

5

6

7

8

9

10

Grade tonnage curve – Surface (metric)

Tonnes above

cut-off (millions)

Average

grade

above

cut-off (g/t)

Cut-off grade (g/t)

18

16

14

12

10

8

6

4

2

Tonnes above cut-off

Ave grade above cut-off

Cerro Vanguardia

0.0

0.5

1.0

1.5

2.0  
2.5  
3.0  
3.5  
4.0  
0  
2  
4  
8  
6  
10  
12  
14  
16  
18  
20

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average grade

above cut-off (g/t)

Cut-off grade (g/t)

30  
26  
22  
18  
14  
10  
6

Tonnes above cut-off

Ave grade above cut-off

{

**133**

AMERICAS

## COUNTRY OVERVIEW

AngloGold Ashanti's operations in Brazil comprise AngloGold Ashanti Córrego do Sítio Mineração (AGA Mineração) in the Quadrilátero

Ferrífero, Minas Gerais plus Mineração Serra Grande, in Goiás. AGA Mineração consists of several operations, namely Cuiabá,

Lamego, Córrego do Sítio as current operating mines and Nova Lima Sul as a conceptual project.

## MINERAL RESOURCE ESTIMATION

### Iron Quad Operations (AGA Mineração)

Cuiabá mine is the largest gold producer in Brazil, and has been in operation since 1984. The mine is hosted in a greenstone

belt environment and consists of gold mineralisation in massive to disseminated sulphides (mainly pyrite, subordinate arsenopyrite

and pyrrhotite). The main mineralisation host rock is Banded Iron Formation (BIF), sealed by graphite schists and metabasic rocks

alternating in the hanging wall and foot wall depending on the structural position in the folded structure. Mining levels are 60m to 66m

vertically apart, the deepest development at Cuiabá is currently at 1,111m depth. Shaft facilities are currently at the last loading level at

Level 11 (about 1,200m depth).

The Cuiabá dataset consists of channel samples and drill-hole samples. The 3D modelling and estimation is performed with two

estimation domains, namely the thick mineralisation, consisting of Fonte Grande Sul (FGS) and Serrotinho (SER), and the narrow vein

domain consisting of Balancão, Galinheiro and Canta Galo. All channel and drill-hole samples are used in the 3D geological models

and identify rock types, in order to incorporate lithological proportions into the grade estimates. Conditional simulation is applied to

determine the uncertainty in the block models and classify the Mineral Resource into Measured, Indicated and Inferred.

Lamego shows similar rock assemblage but higher structural complexity than Cuiabá. The BIF which contains the mineralisation is

more structurally deformed and sometimes is described as 'metachert'. Lamego is part of the Cuiabá complex – they are 7km apart,

with existing infrastructure to truck the ore by sealed road to Cuiabá. The Lamego Run of Mine (ROM) product is treated at Cuiabá's

gravity gold plant. The sulphide concentrates from both mines are transported to the Queiroz plant complex for the last process of the

metallurgical recovery which consists of a roaster, which produces gold and sulphur acid. The estimation method applied at Lamego

is also Ordinary Kriging and classification of the Mineral Resource is also based on simulation techniques.

Córrego do Sítio is a new mine, comprising sulphide underground operations (currently Cachorro Bravo, Laranjeiras and Carvoaria,

and the under development Sangue de Boi) and open pit oxide operations (currently Rosalino, Carvoaria and Laranjeiras).

The entire Córrego do Sítio complex comprises 23 mineral deposits reported as Mineral Resources plus some exploration targets

being developed. Currently the Córrego do Sítio complex is the largest Mineral Resource within the Brazilian assets. Mineralisation

occurs in a greenstone belt geological environment, associated with quartz and sulphides (mainly arsenopyrite) in a structural

controlled corridor approximately 16 – 20km in strike length and about 500m vertical extent. The Mineral Resource is estimated by

Ordinary Kriging, and classified using geostatistical Conditional Simulation techniques.

In Brazil's world famous Iron Quadrilateral, the Nova Lima Sul project consists of the Raposos Mine, Morro da Glória Mine (both

underground mines) and Luzia da Mota oxide Mineral Resource. Raposos was estimated by the geostatistical Uniform Conditioning

technique, and both Morro da Glória and Luzia da Mota were estimated by Ordinary Kriging.

Serra Grande

In July 2012, AngloGold Ashanti purchased Kinross' 50% share of Mineração Serra Grande S.A, bringing its ownership to 100%.

The mine complex is located in the municipality of Crixás, in the central portion of Brazil, 400km from the Capital, Brasília, and about

350km from the state capital of Goiás, Goiânia.

The geological setting of Crixás mine is also a greenstone belt, with metasedimentary and metavolcanic rocks. The mineralisation is

associated with quartz veins, massive to disseminated sulphides and different degrees of alteration. It is distributed in stratigraphically

layers in the metamorphic sequence. Geometry of the mineralised deposits is typically complex, with pinch and swell, folded and

boudinage shapes, dipping from 10° to 25° and with greatest continuity along northwest plunging structures.

BRAZIL

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**134**

}

The main producing areas are Corpo IV and the open pit (all part of Mina III), Palmeiras (a three-year old developing mine) and Mina Nova, which is the lowest dip angle structure. In 2012 Cajueiro, a new discovery, was evaluated and is reported as an Inferred Mineral Resource.

The Mineral Resource is estimated by Ordinary Kriging.

#### ORE RESERVE ESTIMATION

The gold price, projected operational performance and costs as well as metallurgical recoveries are taken into consideration in determining the Ore Reserve. Mining parameters such as the mining method, minimum mining width, MCF, dilution and recovery are all applied in the process.

{

**135**

AMERICAS

## OVERVIEW

The wholly-owned AGA Mineração mining complex is located in south-eastern Brazil, in the state of Minas Gerais. It lies south and east of the city of Belo Horizonte and has operations in the municipalities of Nova Lima, Sabará and Santa Bárbara. This area hosts numerous other historic and current gold mining operations, as well as open-pit limestone and iron ore operations. Reorganisation of AGA Mineração was completed during the first half of 2010 and the new company is called AngloGold Ashanti Córrego do Sítio Mineração (commonly referred to as AGA Mineração). The aim was to capture the operating and financial synergies of the numerous mining operations in this historical mining district. The company now encompasses the mining operations at Cuiabá, Lamego, Queiroz, Córrego do Sítio and the former São Bento Mine, which is part of the Córrego do Sítio Complex. AGA Mineração has mining rights over 61,864ha and ore is sourced from the Cuiabá and Lamego underground mines and processed at the Cuiabá and Queiroz plants, while the Córrego do Sítio open pit mine has a heap-leaching facility. A conceptual study on the Nova Lima Sul project, which involves the re-opening of the mothballed Raposos mine, is in progress. All these operations are primarily gold mines, but sulphur (for the production of sulphuric acid) is a by-product of the Cuiabá and Lamego mining operations.

## MINERAL RESOURCE

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

AGA Mineração

Category

Tonnes

Moz

Measured

8.71

6.87

59.82

1.92

Indicated

16.80

5.55

93.18

3.00

Inferred

37.62

5.68

213.84

6.88

AGA Mineração

Total

63.13

5.81  
 366.84  
 11.79  
 Exclusive Mineral Resource  
 Exclusive Mineral Resource is detailed by mine in the appropriate section.  
 Mineral Resource below infrastructure  
 as at 31 December 2012

Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 AGA Mineração  
 Category  
 Tonnes                      Moz

Measured  
 0.92  
 6.03  
 5.57  
 0.18  
 Indicated  
 11.59  
 4.80  
 55.56  
 1.79  
 Inferred  
 34.18  
 5.73  
 195.79  
 6.29  
 AGA Mineração  
 Total  
 46.69  
 5.50  
 256.92  
 8.26

Inclusive Mineral Resource by-product: Sulphur (S)  
 Sulphur  
 as at 31 December 2012

Tonnes  
 million  
 Grade  
 %S  
 Pounds  
 AGA Mineração  
 Category  
 Mt                      million

Measured  
 5.01  
 6.6  
 0.33



731  
Indicated  
7.63  
5.7  
0.43  
957  
Inferred  
14.11  
5.9  
0.84  
1,846  
AGA Mineração  
Total  
26.75  
6.0  
1.60  
3,534  
AGA MINERAÇÃO  
~

**2012** MINERAL RESOURCE AND ORE RESERVE REPORT

**136**

}

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

AGA Mineração

Category

Tonnes

Moz

Proved

4.68

5.99

28.07

0.90

Probable

9.54

4.66

44.41

1.43

AGA Mineração

Total

14.22

5.10

72.48

2.33

Ore Reserve below infrastructure

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

AGA Mineração

Category

Tonnes

Moz

Proved

0.23

8.12

1.88

0.06

Probable

3.92

4.89

19.16

0.62

AGA Mineração

Total

4.15  
 5.07  
 21.04  
 0.68  
 Ore Reserve by-product: Sulphur (S)  
 Sulphur  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 %S  
 Pounds  
 AGA Mineração  
 Category  
 Mt            million  
 Proved  
 3.18  
 5.5  
 0.18  
 386  
 Probable  
 6.03  
 4.4  
 0.26  
 583  
 AGA Mineração  
 Total  
 9.21  
 4.8  
 0.44  
 969  
 AGA Mineração  
 Mineral Resource reconciliation: 2011 to 2012  
 11.46  
 -0.43  
 0.09  
 0.00  
 0.49  
 0.14  
 0.05  
 0.00  
 11.79  
 Ounces (millions)  
 11.9  
 11.7  
 11.5  
 11.3  
 11.1  
 10.9  
 2011  
 Deple-

tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
AGA Mineração  
Ore Reserve reconciliation: 2011 to 2012  
2.05  
-0.39  
0.40  
-0.08  
0.00  
0.03  
0.33  
0.00  
2.33  
Ounces (millions)  
2.4  
2.3  
2.2  
2.1  
2.0  
1.9  
1.8  
1.7  
1.6  
1.5  
2011  
Depletion Model  
change  
Change  
in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Other  
Acquisition/  
Disposal  
2012  
AGA Mineração

0  
1  
2  
3  
4  
5  
6  
7  
0.0  
0.5  
1.0  
1.5  
2.0  
2.5  
3.0

Grade tonnage curve – Surface (metric)

Tonnes above  
cut-off (millions)

Average  
grade above  
cut-off (g/t)

Cut-off grade (g/t)

5.0  
4.5  
4.0  
3.5  
3.0  
2.5  
2.0  
1.5

Tonnes above cut-off

Ave grade above cut-off

AGA Mineração

25  
30  
35  
40  
45  
50  
55  
60  
65  
70  
0.0  
1.0  
0.5  
1.5  
2.0  
2.5  
3.0  
3.5

4.0

4.5

5.0

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average grade

above cut-off (g/t)

Cut-off grade (g/t)

8.5

8.0

7.5

7.0

6.5

6.0

5.5

5.0

4.5

Tonnes above cut-off

Ave grade above cut-off

{

**137**

AMERICAS

CORREGO DO SITIO

AGA MINERAÇÃO –

LOCATION

Córrego do Sítio (CdS) is located 60km east of the city of Belo Horizonte, which is in the Minas Gerais State of Brazil. The southern portion of this mining complex is referred to as Córrego do Sítio I (CdS I) whilst the northern portion (formerly known as São Bento) has been renamed Córrego do Sítio II (CdS II).

GEOLOGY

CdS is located in the eastern part of the lower to middle greenschist facies Archaean Rio das Velhas greenstone belt. The CdS I and

CdS II gold deposits and associated targets are located in a gold trend that extends for about 11km in a north-easterly direction, from

Grota Funda (CdS I areas) in the south to Jambreiro (São Bento/CdS II areas) in the north. The main gold targets and deposits are

distributed over three trends, namely the CdS trend, the Donana Trend and the Cristina Trend.

The CdS deposits consist of narrow northeast/southwest elongated lenses of mineralisation dipping at 20° to 30°. CdS is an orogenic

type deposit and comprises many hydrothermal lodes with quartz veins and low sulphide content disseminated in the wall rocks.

The deposits are narrow, elongated and folded. In general, the mineralisation consists of sericitic zones and quartz veinlets. The gold

occurs as microscopic or sub microscopic inclusions in arsenopyrite and sometimes iron-antimony sulphide berthierite (FeSb<sub>2</sub>S<sub>4</sub>).

Other typical sulphide minerals are pyrrhotite, pyrite and chalcopyrite.

PROJECTS

The CdS project reached full production level in 2012. The sulphide plant started operating in January 2012 and reached full capacity

in the second half of the year. The mine production ramp up is ongoing and full stope production was reached in late December 2012.

The main ventilation system is working and the mine dewatering system and other infrastructure works were completed in 2012.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

AGA Mineração –

Córrego do Sítio

Measured

25 x 25

X            -

-

X    Channel sampling in the oxide

Indicated

30 x 25,

50 x 30,

50 x 50

X            -

-

-

-

Inferred

25 x 40,

30 x 25,

40 x 100,

50 x 30,

50 x 50,

100 x 50,

100 x 100,

200 x 200

X            -

-

-

-

Grade/Ore control    3 x 3,

5 x 4

-

-

-

X    Channel sampling in the oxide

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**138**

}



Mineral Resource  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Córrego do Sítio

Category

Tonnes

Moz

CdS I (Cachorro Bravo)

Measured

1.20

7.65

9.19

0.30

Indicated

0.65

6.75

4.38

0.14

Inferred

0.63

7.93

5.02

0.16

Total

2.48

7.49

18.59

0.60

CdS I (Carvoaria)

Measured

–

–

–

–

Indicated

0.73

11.47

8.34

0.27

Inferred

0.42

8.21

3.44

0.11

Total

1.15

10.28

11.78  
0.38  
CdS I (Secondary)  
Measured  
0.01  
2.72  
0.03  
0.00  
Indicated  
1.13  
4.84  
5.47  
0.18  
Inferred  
3.93  
3.87  
15.23  
0.49  
Total  
5.07  
4.09  
20.73  
0.67  
CdS I (Laranjeiras)  
Measured  
0.57  
6.23  
3.52  
0.11  
Indicated  
1.46  
5.84  
8.55  
0.27  
Inferred  
3.06  
7.16  
21.90  
0.70  
Total  
5.09  
6.68  
33.97  
1.09  
CdS I (Transitional)  
Measured  
0.26  
6.56  
1.73  
0.06  
Indicated

1.13  
4.21  
4.77  
0.15  
Inferred  
0.89  
2.86  
2.55  
0.08  
Total  
2.28  
3.96  
9.05  
0.29  
CdS I (Oxides)  
Measured  
1.13  
3.90  
4.39  
0.14  
Indicated  
2.28  
3.51  
8.02  
0.26  
Inferred  
1.81  
2.74  
4.95  
0.16  
Total  
5.22  
3.33  
17.36  
0.56  
CdS II (Pinta Bem)  
Measured  
—  
—  
—  
—  
Indicated  
—  
—  
—  
—  
Inferred  
0.18  
3.32  
0.60  
0.02

Total

0.18

3.32

0.60

0.02

CdS II (Sangue de Boi)

Measured

—

—

—

—

Indicated

0.52

6.27

3.28

0.11

Inferred

2.09

5.74

12.03

0.39

Total

2.61

5.85

15.31

0.49

CdS II (Sao Bento)

Measured

—

—

—

—

Indicated

—

—

—

—

Inferred

2.04

8.00

16.32

0.52

Total

2.04

8.00

16.32

0.52

CdS II (Pari)

Measured

—

—

—  
—  
Indicated  
—  
—  
—  
Inferred  
2.68  
3.15  
8.44  
0.27  
Total  
2.68  
3.15  
8.44  
0.27  
CdS II (Secondary)  
Measured  
—  
—  
—  
—  
Indicated  
—  
—  
—  
—  
Inferred  
0.26  
3.65  
0.93  
0.03  
Total  
0.26  
3.65  
0.93  
0.03  
CdS II (Transitional)  
Measured  
—  
—  
—  
—  
Indicated  
0.00  
2.92  
0.01  
0.00  
Inferred  
0.10

3.70  
0.35  
0.01  
Total  
0.10  
3.68  
0.36  
0.01  
CdS II (Oxides)  
Measured  
—  
—  
—  
—  
Indicated  
0.29  
4.04  
1.17  
0.04  
Inferred  
1.29  
3.53  
4.54  
0.15  
Total  
1.58  
3.62  
5.71  
0.18  
Córrego do Sítio  
Total  
30.74  
5.18  
159.15  
5.12  
{  
**139**  
AMERICAS

Exclusive Mineral Resource  
as at 31 December 2012

Tonnes  
million

Grade  
g/t

Contained gold  
Córrego do Sítio

Category

Tonnes                      Moz

Measured

2.17

5.93

12.86

0.41

Indicated

5.90

4.93

29.11

0.94

Inferred

19.37

4.97

96.30

3.10

Córrego do Sítio

Total

27.44

5.04

138.27

4.45

The Exclusive Mineral Resource includes all of the CdS areas. It also includes the Cachorro Bravo, Laranjeiras and Carvoaria

underground deposits. The Inferred Mineral Resource that has been included in the pit shells of the oxidised mineralisation is also part

of the Exclusive Mineral Resource.

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Córrego do Sítio

Category

Tonnes

Moz

CdS I (Cachorro Bravo)

Proved

0.69

4.98  
3.42  
0.11  
Probable  
0.40  
4.75  
1.91  
0.06  
Total  
1.09  
4.89  
5.33  
0.17  
CdS I (Carvoaria)  
Proved  
—  
—  
—  
—  
Probable  
0.80  
6.89  
5.52  
0.18  
Total  
0.80  
6.89  
5.52  
0.18  
CdS I (Laranjeiras)  
Proved  
0.25  
4.64  
1.16  
0.04  
Probable  
0.76  
4.19  
3.18  
0.10  
Total  
1.01  
4.31  
4.34  
0.14  
CdS I (Oxides)  
Proved  
0.56  
2.52  
1.42  
0.05



Probable

1.14

2.11

2.40

0.08

Total

1.70

2.24

3.82

0.12

CdS II (Sangue de Boi)

Proved

—

—

—

—

Probable

0.37

4.82

1.77

0.06

Total

0.37

4.82

1.77

0.06

CdS II (Oxides)

Proved

—

—

—

—

Probable

0.04

2.46

0.09

0.00

Total

0.04

2.46

0.09

0.00

Córrego do Sítio

Total

5.00

4.17

20.87

0.67

CORREGO DO SITIO

**continued**

^

AGA MINERAÇÃO –

2012 MINERAL RESOURCE AND ORE RESERVE REPORT

140

}

Ore Reserve modifying factors

as at  
31 December 2012

Córrego do Sítio

Gold

price

\$/oz

BRL/\$

ex-

change

rate

Cut-off

value

g/t Au

Stoping

width

cm

Dilution

%

Dilution

g/t

% RRF

(based

on

tonnes)

% RRF

(based

on g/t)

% MRF

(based

on

tonnes)

% MRF

(based

on g/t)

MCF

%

MetRF

%

CdS I

(Cachorro Bravo)

1,300

1.62

3.71

–

15.0

0.00

–

–

–

– 95.0

88.0  
CdS I (Carvoaria)  
1,300  
1.62  
3.71  
—  
15.0  
0.00  
—  
—  
—  
— 95.0  
88.0  
CdS I (Laranjeiras)  
1,300  
1.86  
3.71  
—  
15.0  
0.00  
—  
—  
—  
— 95.0  
88.0  
CdS I (Oxides)  
1,300  
1.62  
0.61  
—  
28.0  
0.20  
—  
—  
—  
— 92.0  
88.0  
CdS II  
(Sangue de Boi)  
1,300  
1.62  
3.71  
—  
15.0  
0.00  
—  
—  
—  
— 95.0  
88.0  
CdS II (Oxides)

1,300

1.62

0.65

–

28.0

0.20

–

–

–

– 92.0

88.0

Inferred Mineral Resource in business plan  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Córrego do Sítio

Tonnes

Moz

Comment

CdS I (Oxides)

0.52

2.15

1.11

0.04

–

CdS II (Oxides)

0.02

3.20

0.05

0.00

–

Total

0.54

2.15

1.16

0.04

The Inferred Mineral Resource has been included in the mine design, but not in the mine plan. Inferred Mineral Resource has been

located in the mining panels in the lower areas of some sulphide deposits such as Cachorro Bravo, Laranjeiras, Carvoaria and

Sangue de Boi.

#### COMPETENT PERSONS

Category

Name

Professional

organisation

Registration

number

Relevant  
experience

Mineral Resource

Alessandro Henrique Medeiros Silva

MAusIMM

224 831

11 years

Ore Reserve

Glauber Luvizotto

MAusIMM

311 842

8 years

{

**141**

AMERICAS

AGA MINERAÇÃO – CUIABA

LOCATION

Cuiabá is located near Sabará, southeast of the city of Belo Horizonte within the mining district referred to as the Iron Quadrangle.

This region is the second largest producer of iron, gold and manganese in Brazil.

GEOLOGY

Cuiabá mine has gold mineralisation associated with sulphides and quartz veins hosted in Banded Iron Formation (BIF) and volcanic

sequences. The ore is strongly stratiform due to the selective sulphidation of the iron-rich layers. Steeply plunging shear zones tend to

control the mineralisation shoots, which commonly plunge parallel to intersection lineation between banding and foliation associated

with a reclined fold.

Apparent intersection of thrust faults with tight isoclinal folds in a ductile environment often control the mineralisation structures.

The host rocks are mostly BIF with lesser mafic volcanics (mainly with basaltic composition). Mineralisation is interpreted to be due

to the interaction of low salinity, carbon dioxide rich gold-bearing fluids with the high-iron BIF, basalts and carbonaceous graphitic

schists. Sulphide mineralisation consists of pyrite and pyrrhotite with subordinate arsenopyrite and chalcopyrite; the latter tends to

occur as a late-stage fracture fill and is not associated with gold mineralisation. Wallrock alteration is typically carbonate, potassic and

silicic, showing clear zonation in the underground environment. The ore is mainly concentrated in the silicic and sulphidation zones,

inside the BIF or in potassic (and sericitic) zones near the basalts. The main mineralised deposits at Cuiabá are as follows:

- normal limb: Fonte Grande Sul (FGS) and Serrotinho (SER); and
- overturned limb: Balancão (BAL), Galinheiro (GAL) and Canta Galo (CGL).

EXPLORATION

Cuiabá has four satellite deposits: Surucucu, Dom Domingos, Galinheiro Foot wall (GAL-FW) and Viana. The first two are located in

the BIF and the other two in schists in the foot wall and hanging wall respectively. During 2011 exploration drilling was undertaken

at the Surucucu deposit. Results showed that the mineralisation of the Serrotinho deposit extends towards Surucucu on Levels 16

and 17. Further drilling was completed on the Dom Domingos mine on Levels 15 and 16 to identify extensions to the mineralisation.

The exploration work will be reinforced in 2013 based on two main projects:

- define the Mineral Resource above Level 21 by evaluating the satellite deposits' potential (Viana, Dom Domingos, GAL-FW) and the strike extension of the main deposit; and
- deep exploration aiming to define down-plunge extension of main and satellite deposits to Level 32. Exploration results will be the foundation of the Cuiabá Deeps Projects, which is part of the asset strategy optimisation exercise.

The exploration plan comprises underground drilling and deep holes from surface to intercept below Level 24, or deeper than 1,400m.

Two new underground rigs were acquired in 2012 to work exclusively inside the mine checking the continuity of satellites and main deposits.

#### PROJECTS

A conceptual study of Cuiabá Deeps Project started this year. The strategy is to optimise future production from Cuiabá

without abandoning the narrow vein deposits and extend the Life of Mine (LOM) by adding Mineral Resource below Level 21.

The components of this study will be: exploration, rock engineering, transport alternatives, infrastructure, tailings dam and metallurgy.

During 2012, sub-level bench mining method was implemented and a new trial mining with drill up blind-hole stoping was done,

allowing sub-levels at low inclination stopes. It is expected that production from sub-level benches will represent more than 50% of

total production by the end of 2013.

#### **2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**142**

}



MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

AGA Mineração –

Cuiabá

Measured

30 x 60

X –

– X

Channel sampling for underground,  
short holes only to intercept hanging  
wall contact

Indicated

30 x 60

X –

–

–

–

Inferred

80 x 80

X –

–

–

–

Grade/Ore control 5 x 5

X –

– X

Channel sampling for underground,  
short holes only to intercept hanging  
wall contact

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Cuiabá

Category

Tonnes Moz

Main Deposits

Measured

2.10  
10.52  
22.04  
0.71  
Indicated  
1.17  
9.43  
11.07  
0.36  
Inferred  
5.00  
8.82  
44.14  
1.42  
Total  
8.27  
9.34  
77.25  
2.48  
Narrow Veins  
Measured  
1.55  
5.59  
8.68  
0.28  
Indicated  
3.82  
5.15  
19.67  
0.63  
Inferred  
4.71  
5.93  
27.92  
0.90  
Total  
10.08  
5.58  
56.27  
1.81  
Secondary areas  
Measured  
0.76  
6.22  
4.75  
0.15  
Indicated  
0.17  
6.78  
1.15  
0.04

Inferred  
 0.32  
 6.08  
 1.92  
 0.06  
 Total  
 1.25  
 6.26  
 7.82  
 0.25  
 Cuiabá  
 Total  
 19.60  
 7.21  
 141.34  
 4.54  
 Exclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Cuiabá  
 Category  
 Tonnes                      Moz  
 Measured  
 1.74  
 7.51  
 13.07  
 0.42  
 Indicated  
 1.30  
 6.00  
 7.79  
 0.25  
 Inferred  
 10.03  
 7.37  
 73.97  
 2.38  
 Cuiabá  
 Total  
 13.07  
 7.26  
 94.83  
 3.05

At Cuiabá, 2.80Moz of the Exclusive Mineral Resource comes from the Main and Narrow Vein deposits. This Exclusive Mineral Resource is Inferred Mineral Resource that is in the process of being upgraded via conversion drilling. The Exclusive Mineral Resource

is located below infrastructure, starting on Level 17 (at FGS and SER) and Level 14 (at BAL, GAL and CGL). In addition, secondary areas consisting of old stoping panels and satellite deposits are also considered Exclusive Mineral Resource.

{

**143**

AMERICAS

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Cuiabá

Category

Tonnes Moz

Main Deposits

Proved

1.69

9.00

15.25

0.49

Probable

0.97

7.99

7.75

0.25

Total

2.66

8.63

23.00

0.74

Narrow Veins

Proved

1.22

4.82

5.86

0.19

Probable

3.33

4.65

15.51

0.50

Total

4.55

4.70

21.37

0.69

Cuiabá

Total

7.21

6.15

44.36

1.43

Ore Reserve modifying factors

% RRF

% MRF  
 as at  
 31 December 2012  
 Cuiabá  
 Gold  
 price  
 \$/oz  
 BRL/\$  
 exchange  
 rate  
 Cut-off  
 value  
 g/t Au  
 Stoping  
 width  
 cm  
 Dilution  
 %  
 Dilution  
 g/t  
 (based  
 on  
 tonnes)  
 % RRF  
 (based  
 on g/t)  
 (based  
 on  
 tonnes)  
 % MRF  
 (based  
 on g/t)  
 MCF  
 %  
 MetRF  
 %  
 Main Deposits  
 1,300  
 1.90  
 5.01  
 –  
 6.0  
 –  
 –  
 –  
 –  
 95.0  
 93.0  
 Narrow Veins  
 1,300

1.90	
3.75	
–	
0.3	
–	
–	
–	
–	
95.0	
93.0	
Inferred Mineral Resource in business plan as at 31 December 2012	
Tonnes million	
Grade g/t	
Contained gold	
Cuiabá	
Tonnes	Moz
Comment	
Main Deposits	
0.23	
5.98	
1.37	
0.04	
Part of FGS Level 15/16 and SER deposit Levels 15/16/17	
Narrow Veins	
0.21	
5.62	
1.20	
0.04	
Part of deposits BAL and GAL from Level 12 to 15	
Total	
0.44	
5.81	
2.57	
0.08	

COMPETENT PERSONS

Category
Name
Professional organisation
Registration number
Relevant experience
Mineral Resource
Rodrigo Martins
MAusIMM

311 050

8 years

Ore Reserve

Paulo Peruzzo Filho

MAusIMM

312 703

23 years

,

AGA MINERAÇÃO – CUIABA

**continued**

~

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**144**

}



## LOCATION

Lamego is located in the north-western part of the Iron Quadrangle metallogenetic province, close to Cuiabá gold mine. The mine is located to the east of the city of Belo Horizonte city, which is in the Minas Gerais State in the south-eastern region of Brazil.

## GEOLOGY

The gold mineralisation at Lamego is characterised by bodies associated with two horizons of chemical sedimentary rocks, viz.

BIF and metachert (MCH), and also with shear zones containing abundant quartz veinlets. The proportions of these lithotypes vary substantially from one deposit to another. In the BIF, sulphide mineralisation is associated with the gold, whilst in the MCH and quartz veins the gold occurs either as native gold or in sulphides. Mineralisation is characterised by sulphidation in the form of disseminated sulphide bands or as fracture filling, and rarely as compact sulphide, hosted in BIF/MCH. Sulphide bands are rare in MCH. The plunge of the mineralised zones coincides both with the fold axis of the first two structural events and with the mineral stretching lineation.

The Arco da Velha deposit is located on the eastern side of a large fold and extends for 250m along the strike. In the north-eastern portion the mineralisation is concentrated in the MCH, whilst in the south-western portion it is concentrated in the BIF. Carbonaceous phillite and clorite/sericite schists occur in the hanging wall contact, while the hydrothermal alteration zone marked by the meta-andesite occurs in the foot wall.

The Cabeça de Pedra deposit is located in the hinge region of the large Lamego structure. The area which has shown the best economic potential contains BIF and MCH (80% of the area consists of BIF and the remaining 20% is MCH). The presence of faulting makes the stratigraphy complex in some areas. The carbonaceous phillite and clorite/sericite schists normally occur in the hanging wall and meta-andesites in the foot wall.

Carruagem is the main deposit that opened the way for the resumption of the Lamego project. Structurally, it is located at the junction or in close proximity to two fold limbs in the northeast portion of the major structure. It is a boudinaged body with two large disruptions in the structure (pinch and swell), followed by eastward displacement. The gold mineralisation is mainly associated with hydrothermal zones within the BIF.

AGA MINERAÇÃO – LAMEGO

~

{

145

AMERICAS

EXPLORATION

Lamego is included in the Cuiabá-Queiroz project. In 2012 the exploration programme was focused on down plunge extension of Arco da Velha and Carruagem and to check the potential of shallow resources, which could be mined by open pit. In 2013, the exploration work will continue to investigate the down plunge extension of main deposits such as Carruagem and Cabeça de Pedra, both from surface and underground.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

AGA Mineração –

Lamego

Measured

20 x 10

X –

– X

Channel sampling for underground, short holes only to intercept hanging wall contact

Indicated

125 x 25

X –

–

–

–

Inferred

300 x 50

X –

–

–

–

Grade/Ore control 2 x 3

–

–

– X

Channel sampling for underground, short holes only to intercept hanging wall contact

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million	
Grade	
g/t	
Contained gold	
Lamego	
Category	
Tonnes	Moz
Arco da Velha	
Measured	
0.11	
4.52	
0.49	
0.02	
Indicated	
0.33	
4.06	
1.36	
0.04	
Inferred	
0.48	
3.50	
1.68	
0.05	
Total	
0.92	
3.82	
3.53	
0.11	
Cabeça de Pedra	
Measured	
0.34	
3.94	
1.34	
0.04	
Indicated	
1.17	
3.53	
4.11	
0.13	
Inferred	
0.83	
4.15	
3.44	
0.11	
Total	
2.34	
3.81	
8.89	
0.29	
Carruagem	
Measured	

0.08  
11.28  
0.90  
0.03  
Indicated  
0.92  
7.73  
7.09  
0.23  
Inferred  
1.54  
5.52  
8.53  
0.27  
Total  
2.54  
6.50  
16.52  
0.53  
Secondary Areas  
Measured  
0.07  
7.86  
0.52  
0.02  
Indicated  
0.05  
8.23  
0.40  
0.01  
Inferred  
1.23  
4.31  
5.29  
0.17  
Total  
1.35  
4.63  
6.21  
0.20  
Lamego  
Total  
7.15  
4.92  
35.15  
1.13  
Exclusive Mineral Resource  
as at 31 December 2012  
Tonnes  
million  
Grade

g/t	
Contained gold	
Lamego	
Category	
Tonnes	Moz
Measured	
0.41	
5.54	
2.27	
0.07	
Indicated	
1.27	
5.03	
6.39	
0.21	
Inferred	
3.75	
4.72	
17.67	
0.57	
Lamego	
Total	
5.43	
4.85	
26.33	
0.85	

AGA MINERAÇÃO – LAMEGO

**continued**

~

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**146**

}

ORE RESERVE

Ore Reserve

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Lamego

Category

Tonnes Moz

Arco da Velha

Proved

0.11

2.61

0.29

0.01

Probable

0.19

2.87

0.55

0.02

Total

0.30

2.77

0.84

0.03

Cabeça de Pedra

Proved

0.11

2.86

0.30

0.01

Probable

0.48

2.72

1.30

0.04

Total

0.59

2.74

1.60

0.05

Carruagem

Proved

0.06

6.77

0.38

0.01

Probable

1.06

4.18  
4.44  
0.14  
Total  
1.12  
4.30  
4.82  
0.15  
Lamego  
Total  
2.01  
3.62  
7.25  
0.23  
Ore Reserve modifying factors  
% RRF  
% MRF  
as at  
31 December 2012  
Lamego  
Gold  
price  
\$/oz  
BRL/\$  
exchange  
rate  
Cut-off  
value  
g/t Au  
Stoping  
width  
cm  
Dilution  
%  
Dilution  
g/t  
(based  
on  
tonnes)  
% RRF  
(based  
on g/t)  
(based  
on  
tonnes)  
% MRF  
(based  
on g/t)  
MCF  
%  
MetRF

%  
 Arco da Velha  
 1,300  
 1.90  
 2.13  
 350.0  
 5.0  
 –  
 –  
 –  
 –  
 –  
 94.5  
 93.0\*  
 Cabeça de Pedra  
 1,300  
 1.90  
 2.13  
 350.0  
 5.0  
 –  
 –  
 –  
 –  
 –  
 94.5  
 93.0\*  
 Carruagem  
 1,300  
 1.90  
 2.13  
 350.0  
 5.0  
 –  
 –  
 –  
 –  
 –  
 94.5  
 93.0\*  
 \* *Blended average recovery.*  
 Inferred Mineral Resource in business plan  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Lamego  
 Tonnes        Moz  
 Comment



Cabeça de Pedra

0.29

2.84

0.83

0.03

Mainly Cabeça de Pedra at Level 5 and a remaining portion at Levels 6 and 7

Carruagem

0.21

2.56

0.53

0.02

From Level 6 to the deepest levels of Carruagem

Total

0.50

2.72

1.36

0.05

According to the standard adopted by AngloGold Ashanti, the Inferred Mineral Resource is not transformed into an Ore Reserve, but

may be included for the purpose of defining the business plan. Modifying factors are applied and the resultant Mineral Resource is

then specified as a Mineable Resource. The modifying factors that have been applied are:

- planned dilution: intrinsic to the minimum operating width in accordance with the size of equipment used, creating an actual width in the mine face of at least 3.5m;

- operating dilution of 5%;

- mining recovery of 95%; and

- MCF of 94.5%.

At Lamego the Inferred Mineral Resource that was transformed into a Mineable Resource is located at the Carruagem, L06 down to L09,

and Cabeça de Pedra at L05.

#### COMPETENT PERSONS

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Rodrigo Martins

MAusIMM

311 050

8 years

Ore Reserve

Renato Queiroz de Castro

MAusIMM

312 329

8 years

{

**147**

AMERICAS

## LOCATION

The Nova Lima Sul project is located in the western portion of the Rio das Velhas greenstone belt, and all the deposits are within a 16km radius of the Queiroz metallurgical plant. Nova Lima Sul comprises mothballed operations (Raposos underground mine), old mines (Mina Grande, Morro da Glória, Bicalho, Faria, Bela Fama), as well as old prospects (Luzia da Mota, Limoeiro) and several old surface workings (Saboeiro Rasgão, Urubu and Luzia's Mina Grande). The main exploration goal is to add and convert the Mineral Resource in order to fill the current Queiroz plant's spare capacity.

## GEOLOGY

The Nova Lima Sul deposits are situated in the south-western portion of the Iron Quadrangle in the Minas Gerais State of Brazil.

The area is located in the volcanic sedimentary sequence of the Nova Lima Group (Rio das Velhas Supergroup), in the Rio das Velhas greenstone belt.

The Nova Lima Group hosts the main gold mines and mineral occurrences in the Iron Quadrangle and consists of a basal tholeiitic-

komatiitic volcanic unit with abundant chemical sedimentary rocks, which is overlain by a volcanoclastic unit with associated

felsic volcanic rocks. This is in turn overlain by an upper clastic unit. The mineralised deposits in the Rio das Velhas greenstone

belt are structurally controlled and are associated with hydrothermal alteration along D2 thrust shear zones, on a regional scale.

The mineralisation is epigenetic and the most common styles at Nova Lima Sul are massive, banded and disseminated sulphides

hosted in Banded Iron Formation (BIF) and albitised greywacke.

Economic Mineralisation is around 0.5m to 20m in thickness and can be more than 5,000m in length (along plunge direction).

The mineralisation plunge is defined by the stretching lineation and it is parallel to the fold axis of the first two regional deformation events.

### Geology of Raposos

The Raposos sequence is interpreted as a ductile thrust that occurred during the first deformation event. The main mineralised area is

associated with an anticline. The stratigraphic sequence, repeated by folds, has ultramafics at the base, overlain by komatiitic basalts,

basalts and andesites with layers of BIF. Pelites and metavolcanoclastic occur at the top of the sequence. The BIF is oxide facies

(magnetite and quartz), with carbonatisation in the mineralised areas.

The mineralisation is primarily located in the BIF, and is surrounded by concentric hydrothermal alteration zones consisting of

sericitisation, carbonatisation and chloritisation that extend from the deposit outwards.

### Geology of Morro da Glória

In the Morro da Glória area the rocks consist of komatiitic ultramafics, graphite phyllite, felsic metavolcanoclastic associated with

metapelites and several layers of BIF.

The larger-scale structures at Raposos and Morro da Glória are anticlinal and the mineralisation is associated with folds and shear

zones, surrounding by concentric hydrothermal alteration zones consisting of sericitisation, carbonatisation and chloritisation. BIF is

oxide facies (magnetite and quartz), with carbonatisation in the mineralised areas. The gold is associated with sulphides and quartz veins in the BIF and the altered schists.

#### EXPLORATION

The exploration strategy at Nova Lima Sul is to focus first on Mineral Resource additions from Raposos and Morro da Glória for

the coming years through a drilling campaign initiated in 2011. In 2012 the exploration focused on underground drilling at Raposos

and surface drilling at Morro da Glória. Depending on the drilling results, a conceptual study update will be carried out during 2013.

At Raposos a total of 1,300m of underground drilling was completed in 2012 to verify the down-plunge extension of this mineralisation.

An additional drilling campaign of 1,500m will be conducted during 2013 to update the geological model.

At Morro da Glória, exploration work included a review of the database and the existing borehole core aimed at improving the

geological understanding. A total of 2,000m of diamond drilling (DD) was also executed in 2012 to check down plunge continuity

of some deposits.

AGA MINERAÇÃO – NOVA LIMA SUL

~

#### **2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**148**

}

PROJECTS

The projects and abandoned mines in the southern region of Nova Lima are part of the Nova Lima Sul targets. The main driving force of this project is to take advantage of the current infrastructure (like the Raposos operating shaft and mining infrastructure) and current spare capacity in the Queiroz plant (Raposos circuit for non-refractory ore) to improve the production of the region. The Nova Lima Sul targets comprise the exploration and mine re-opening in areas such as Raposos and Morro da Glória. In 2013 exploration work will continue at Raposos, Morro da Glória and other targets aiming to increase the Mineral Resource.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Nova Lima Sul

Measured

15 x 15,

30 x 30

X -

- X

Surface channel sampling and DD

plus 34 Level open

Indicated

30 x 30,

60 x 60

X -

- X

Surface channel sampling and DD

plus 34 Level open

Inferred

60 x 60,

100 x 100

X -

- X

Channel sampling in the levels and

DD

Grade/Ore control 3 x 3

-

-

- X

-

Inclusive Mineral Resource

as at 31 December 2012

Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 Nova Lima Sul  
 Category  
 Tonnes  
 Moz  
 Morro da Glória  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 –  
 –  
 –  
 –  
 Inferred  
 1.26  
 6.52  
 8.21  
 0.26  
 Total  
 1.26  
 6.52  
 8.21  
 0.26  
 Raposos  
 Measured  
 0.18  
 7.01  
 1.29  
 0.04  
 Indicated  
 0.41  
 6.85  
 2.80  
 0.09  
 Inferred  
 2.25  
 6.44  
 14.50  
 0.47  
 Total  
 2.84  
 6.53  
 18.59  
 0.60

Luzia da Mota

Measured

0.35

2.72

0.96

0.03

Indicated

0.56

2.75

1.54

0.05

Inferred

0.63

3.03

1.90

0.06

Total

1.54

2.86

4.40

0.14

Nova Lima Sul

Total

5.64

5.53

31.20

1.00

{

**149**

AMERICAS

AGA MINERAÇÃO – NOVA LIMA SUL

**continued**

~

Exclusive Mineral Resource  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Nova Lima Sul

Category

Tonnes

Moz

Measured

0.54

4.19

2.25

0.07

Indicated

0.97

4.48

4.34

0.14

Inferred

4.14

5.95

24.62

0.79

Nova Lima Sul

Total

5.65

5.53

31.21

1.00

The Nova Lima Sul project currently does not have any declared Ore Reserve and the Exclusive and Inclusive Mineral Resource

numbers are therefore identical.

**COMPETENT PERSON**

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Rodrigo Martins

MAusIMM

311 050

8 years



**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**150**

}

## SERRA GRANDE

### LOCATION

Since May 2012, Serra Grande has been wholly owned by AngloGold Ashanti and controls, or has an interest or agreements in, approximately 48,207ha in and around the Crixás mining district in the north-western area of the Goiás State in central Brazil. Serra

Grande is located 5km from the city of Crixás and 420km from the national capital, Brasília.

The Serra Grande operation comprises three underground mines, namely Mina III, Mina Nova (including the Pequizão deposit) and

Palmeiras, and one open pit mining the shallow portions of the Mina III mineralised zone (between surface and Level 50). The

processing circuit is equipped with grinding, leaching, filtration, precipitation and smelting facilities, and is able to process 1.2 Mtpa.

### GEOLOGY

The Serra Grande gold deposits are hosted in a typical greenstone belt sequence. The host rocks belong to the Crixás Group of the

Upper Archaean in the Crixás greenstone belt. Gold mineralisation is associated with metasediments and metavolcanics from the

Ribeirão das Antas and Rio Vermelho formations respectively. The Crixás greenstone belt is surrounded by granitic gneiss terrains from

the Anta and Caiamar complexes and metasedimentary rocks from the Santa Terezinha Group.

Two main deformation events have been identified in the region. The first event is a thrust event (east over west, D1) developed with

irregular thrust ramp geometry. This event was responsible for stacking and inverting the stratigraphic sequence. The second event

(D2) was the thrusting of the Santa Terezinha sequence over the Crixás greenstone belt, folding the rocks (F2) and generating the

structures that control the gold mineralisation, generally parallel to the fold axis.

The mineralised zones at Serra Grande have been separated into four main domains called Structures II, III, IV and Palmeiras.

In Structure II the mineralisation is arsenopyrite associated with quartz as veinlets in carbonaceous metapelite as seen in the new

deposit, Cajueiro. In Structure III, the mineralisation is located in quartz veins that are hosted in graphitic schists, representing the

highest Au grades (>8 g/t, with free gold). This structure is also associated with massive and disseminated sulphides (mainly pyrrhotite

and arsenopyrite) that occur in a sequence of hydrothermally altered schists.

The mineralisation of Structure IV comprises quartz veinlets and disseminated sulphide (pyrrhotite) hosted in graphite schists. The

mineralised zones are hosted in sericite and chlorite schists with massive and disseminated sulphide concentrated in folded zones.

The ore shoots plunge to the northwest and the dips vary between 6° and 35°.

Those mineralised structures that were originally identified near the current mines, are now better understood and have now been

identified in the north-western portion of the Greenstone belt, opening new exploration possibilities.

### EXPLORATION

From 2006 to 2010, the exploration team focused on adding to the Mineral Resource. A fast-track exploration programme, completed

during 2011 and 2012, resulted in a Mineral Resource addition from 2008 of 1.8Moz, with 554,000oz in 2012 (including model

changes) at an average cost of US\$21/oz.

Over the past six years, more than 270,000m of drilling was completed along the main geological structures in the area. In 2012, the exploration team drilled a total of 65,000m and the exploration was divided into distinct blocks, namely:

- near the current Mineral Resource of Pequizão (Baru and Pequizão deposits);

- Mina III (IV, VQZ, Sul, Urucum, Sucupira and A deposits);

- Mina Nova (9A, 11, 26, 27 and Mina Venâncio deposits); and

- advanced work: Manifesto de Mina (Cajueiro deposit).

In 2012, the exploration strategy was reviewed to focus on increasing the average gold grade as well as the Mineral Resource.

To achieve the first objective, the exploration team is now focusing on high-grade targets and working in synergy with the geological

teams at the currently developed areas (VQZ Deep, Palmeiras North and South). To increase the Mineral Resource, the team assessed

the full potential of the targets located near the operating mines and resumed regional target generation outside the Crixás greenstone

belt area, like Crixás Norte and NW, where the new deposit Cajueiro has been found.

{

**151**

AMERICAS

SERRA GRANDE  
PROJECTS

No projects are currently being undertaken at Serra Grande.

MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other Comments

Serra Grande

Measured

10 x10,

20 x 10

X -

- X

Channel sampling

Indicated

10 x 20,

20 x 50,

100 x 25

X -

- X

Channel sampling

Inferred

50 x 50,

100 x 50

X -

- X

-

Grade/Ore control 2 x 2,

10 x 10

-

- X X

Channel sampling

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Serra Grande

Category

Tonnes

Moz

Mina Nova

Measured

2.94

3.40

10.02

0.32

Indicated

1.15

3.19

3.66

0.12

Inferred

2.32

3.32

7.70

0.25

Total

6.41

3.34

21.38

0.69

Mina III

Measured

1.01

4.73

4.76

0.15

Indicated

1.32

4.51

5.95

0.19

Inferred

1.67

5.03

8.41

0.27

Total

4.00

4.78

19.12

0.61

Palmeiras

Measured

0.50

7.28

3.62

0.12

Indicated

0.22

6.39

1.43  
0.05  
Inferred  
1.03  
5.01  
5.15  
0.17  
Total  
1.75  
5.83  
10.20  
0.33  
Pequizao  
Measured  
0.76  
5.74  
4.35  
0.14  
Indicated  
1.18  
5.28  
6.24  
0.20  
Inferred  
4.75  
3.95  
18.77  
0.60  
Total  
6.69  
4.39  
29.36  
0.94  
Cajueiro  
Measured  
—  
—  
—  
—  
Indicated  
—  
—  
—  
—  
Inferred  
1.22  
2.89  
3.52  
0.11  
Total  
1.22

2.89  
3.52  
0.11  
Open pit  
Measured  
0.54  
3.14  
1.69  
0.05  
Indicated  
0.34  
3.11  
1.04  
0.03  
Inferred  
0.13  
1.88  
0.24  
0.01  
Total  
1.01  
2.97  
2.97  
0.10  
Total stockpiles  
Measured  
0.08  
1.96  
0.15  
0.00  
Indicated  
—  
—  
—  
—  
Inferred  
—  
—  
—  
—  
Total  
0.08  
1.96  
0.15  
0.00  
Serra Grande  
Total  
21.14  
4.10  
86.70  
2.79

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**152**

}



Exclusive Mineral Resource  
as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Serra Grande

Category

Tonnes

Moz

Measured

0.12

5.60

0.69

0.02

Indicated

0.92

3.54

3.25

0.10

Inferred

11.12

3.94

43.79

1.41

Serra Grande

Total

12.16

3.93

47.73

1.53

Mineral Resource below infrastructure

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

Serra Grande

Category

Tonnes

Moz

Measured

—

—

—

—

Indicated

—

—

—

—

Inferred

10.99

3.96

43.56

1.40

Serra Grande

Total

10.99

3.96

43.56

1.40

{

**153**

AMERICAS

SERRA GRANDE

**continued**

Serra Grande

Mineral Resource reconciliation: 2011 to 2012

1.19  
 -0.14  
 0.00  
 0.00  
 0.50  
 0.05  
 0.00  
 1.19  
 2.79  
 Ounces (millions)

2.8  
 2.6  
 2.4  
 2.2  
 2.0  
 1.8  
 1.6  
 1.4  
 1.2  
 1.0  
 0.8  
 2011  
 Deple-  
 tion  
 Gold  
 price  
 Cost  
 Explo-  
 ration  
 Metho-  
 dology  
 Other  
 Acquisition/  
 Disposal  
 2012  
 Serra Grande

Ore Reserve reconciliation: 2011 to 2012

0.37  
 -0.14  
 0.16  
 0.00  
 0.00  
 0.00  
 0.00  
 0.37  
 0.76  
 Ounces (millions)

0.8  
0.7  
0.6  
0.5  
0.4  
0.3  
0.2  
0.1  
2011  
Depletion Model  
change  
Change  
in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Other  
Acquisition/  
Disposal  
2012  
ORE RESERVE  
Ore Reserve  
as at 31 December 2012  
Tonnes  
million  
Grade  
g/t  
Contained gold  
Serra Grande  
Category  
Tonnes  
Moz  
Mina Nova  
Proved  
1.97  
2.18  
4.30  
0.14  
Probable  
0.46  
2.70  
1.25  
0.04  
Total  
2.43  
2.28  
5.55

0.18  
Mina III  
Proved  
0.85  
3.09  
2.63  
0.08  
Probable  
0.97  
3.42  
3.33  
0.11  
Total  
1.82  
3.27  
5.96  
0.19  
Palmeiras  
Proved  
0.47  
4.40  
2.07  
0.07  
Probable  
0.15  
4.73  
0.69  
0.02  
Total  
0.62  
4.48  
2.76  
0.09  
Pequizao  
Proved  
0.69  
3.74  
2.59  
0.08  
Probable  
1.04  
3.88  
4.04  
0.13  
Total  
1.73  
3.82  
6.63  
0.21  
Open pit  
Proved

0.55  
 3.10  
 1.69  
 0.05  
 Probable  
 0.32  
 3.19  
 1.02  
 0.03  
 Total  
 0.87  
 3.13  
 2.71  
 0.09  
 Total stockpiles  
 Proved  
 0.08  
 1.96  
 0.15  
 0.00  
 Probable  
 –  
 –  
 –  
 –  
 Total  
 0.08  
 1.96  
 0.15  
 0.00  
 Serra Grande  
 Total  
 7.55  
 3.15  
 23.77  
 0.76  
 Ore Reserve modifying factors  
 as at  
 31 December 2012  
 Serra Grande  
 Gold  
 price  
 \$/oz  
 BRL/\$  
 ex-  
 change  
 rate  
 Cut-off  
 value  
 g/t Au  
 Stoping

width  
cm  
Dilution  
%  
Dilution  
g/t  
% RRF  
(based  
on  
tonnes)  
% RRF  
(based  
on g/t)  
% MRF  
(based  
on  
tonnes)  
% MRF  
(based  
on g/t)  
MCF  
%  
MetRF  
%  
Mina III  
1,300  
1.77  
2.08  
—  
15.0  
—  
—  
—  
—  
—  
95.0  
93.7  
Mina Nova  
1,300  
1.77  
1.96  
—  
7.0  
—  
—  
—  
—  
95.0  
93.7  
Palmeiras

1,300

1.77

1.92

–

12.0

–

–

–

–

–

95.0

93.7

Pequizao

1,300

1.77

1.92

–

12.0

–

–

–

–

–

95.0

93.7

Open pit

1,300

1.77

1.00

–

7.0

–

99.0

100.0

–

–

95.0

93.7

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**154**

}



0.0  
0.2  
0.4  
0.6  
0.8  
1.0

0  
1  
2  
4  
3  
5  
6  
7  
8  
9  
10

Serra Grande

Grade tonnage curve – Surface (metric)

Tonnes

above

cut-off

(millions)

Average

grade

above

cut-off (g/t)

Cut-off grade (g/t)

12

10

8

6

4

2

Tonnes above cut-off

Ave grade above cut-off

Serra Grande

6

8

10

12

14

16

18

20

22

0.0

0.5

1.0

1.5

2.0

2.5

3.0

3.5

4.0

Grade tonnage curve – Underground (metric)

Tonnes

above

cut-off

(millions)

Average grade

above cut-off (g/t)

Cut-off grade (g/t)

6.2

5.8

5.4

5.0

4.6

4.2

3.8

Tonnes above cut-off

Ave grade above cut-off

COMPETENT PERSONS

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Edijarbas Martins Araujo

MAusIMM

224 825

31 years

Ore Reserve

Wanderlucio Gomes Martins

MAusIMM

311 568

12 years

Inferred Mineral Resource in business plan

No planning or scheduling took place in areas classified as Inferred Mineral Resource.

{

**155**

AMERICAS

## COLOMBIA

### COUNTRY OVERVIEW

Systematic regional greenfields exploration has been undertaken by AngloGold Ashanti and its joint venture partners (B2Gold, Glencore

International and Mineros S.A.) in Colombia since 2004. AngloGold Ashanti has consolidated the tenement position from roughly

100,000km in 2009 to 15,815km<sup>2</sup> at the end of 2011 through a variety of structures, including joint ventures and the relinquishment

of non-prospective areas.

At the wholly-owned La Colosa project, brownfields exploration drilling and pre-feasibility development has resumed after delays

due to water-related issues. AngloGold Ashanti secured regional opportunities surrounding La Colosa and exploration of the greater

La Colosa area is continuing with the objective of discovering and quantifying similar gold-rich porphyry mineralisation styles.

At Gramalote (51% AngloGold Ashanti, 49% B2Gold), the joint venture partners renegotiated their agreement, resulting in AngloGold

Ashanti assuming management of the project via a project pre-feasibility study team. Pre-feasibility drilling began during the last

quarter of 2010, after a hiatus of more than 12 months.

### MINERAL RESOURCE ESTIMATION

#### Gramalote

At Gramalote, about 51,280m of drilling (44,300m at Gramalote Central and 7,000m at the Trinidad area) was used to support the

estimation of Inferred, Indicated and Measured Mineral Resource. The Mineral Resource estimate was generated using Ordinary

Kriging whereby the deposit was separated into different geological homogeneous zones according to the grades and lithology.

All available geological drill hole and mapping information, both surface and underground, has been validated for use in the

modelling process.

#### La Colosa

At La Colosa, some 17,000m of drilling was used to support the estimation of an Inferred Mineral Resource. Gold grades were

estimated using Ordinary Kriging. Kriging was performed into a block size of 50m x 50m x 10m using lithological domains (wireframes)

in a grade based mineralisation envelope and for the waste surrounding the mineralisation. All available geological drill hole, surface

sampling and mapping information has been validated for use in the modelling process.

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

156

}

## GRAMALOTE

### LOCATION

The Gramalote property is located near the town of Providencia and San Jose del Nus belonging to the municipality of San Roque, northwest of the Department of Antioquia, Colombia. It is approximately 230km northwest of the Colombian capital of Bogota and 124km northeast of Medellin, the regional capital of Antioquia Department, with a population of more than two million people.

The municipalities of San Roque and Maceo are within 20km of the project site.

### GEOLOGY

The Gramalote gold deposit is hosted in the late Cretaceous Antioquia Batholith. This intrusive covers an area of 7,221km<sup>2</sup> and composes the core of the Central Cordillera at the Antioquia Department (Gonzalez, 2001). The Antioquia Batholith is composed

of 92% tonalite and granodiorite ('normal phase'), with 8% being comprised of two subordinate rock types: granodiorite to quartz-monzonite and gabbro.

Gramalote is interpreted to be an intrusive-hosted structurally controlled stockwork gold and silver deposit. Gold mineralisation is controlled by northeast-southwest trending shear zones and north-northwest to south-southeast trending shear extensional zones

affecting the tonalites and granodiorites of the Antioquia Batholith. Mineralisation is associated with stock work veining and particularly

quartz with fine-pyrite veins, quartz-carbonate veins, and quartz with coarse pyrite veins.

The deposit is completely underlain by medium to coarse-grained biotite ± hornblende tonalite and granodiorite.

Detailed lithology,

alteration and structural mapping within the Gramalote Ridge area emphasises the homogeneity of the tonalite intrusive with more than

95% of the rock mass comprised of tonalite-granodiorite. Alteration assemblages related to mineralisation are variable and are closely

linked to the structural evolution of the area.

Gramalote comprises three distinct deposits, Central Gramalote, Trinidad and Monjas West, within a greater mineral tenement block

of some 35,000ha exclusively retained under licence by the joint venture.

{

**157**

AMERICAS

The main zone of mineralisation defined by drilling has been traced along strike to the northeast for approximately 1,100m. Mineralisation occurs within several zones that periodically coalesce both along strike and down-dip. Zones vary in width from tens of metres to 200m in true width with vertical to sub-vertical dips to the south-southeast. The Trinidad mineralised zone is located approximately 3km north-northwest of the Gramalote Ridge. Monjas West is located 2.6km along the westward strike extension of the Gramalote Ridge zone. The style of alteration and mineralisation of both satellite deposits is similar to the Gramalote Ridge area. A total of 214 diamond drill holes (plus a 240m underground tunnel) have been drilled or developed at Gramalote Ridge and the nearby exploration targets. Based upon regional and property scale mapping, the Gramalote Ridge and surrounding zones of interest are located between two west-northwest-trending macro-scale curved lineaments which splay off the Palestina fault to the east and transect the Antioquian Batholith. These include the Nus River lineament and the El Socorro lineament. Differential movement along the Nus and El Socorro lineaments is thought to have generated north-northwest, northsouth and northeast striking tensional dilation within the tonalite, reflected in the formation of stockwork style as well as sheeted quartz and quartz carbonate veins.

**EXPLORATION**

Exploration strategy during 2012 was focused on two deposits, Central Gramalote and Monjas West, where drilling programmes were aimed at proving up the potential Mineral Resource. In addition to these, sterilisation, infrastructure, hydrogeology and geotechnical drilling were performed. Based on lithological continuity (Antioquia Batholith), similar structural setting and mineralisation style and the presence of historical artisanal mining over the entire area, the exploration potential in the district is considered to be promising. Less than 10% of the large tenement position has been explored to date. A comprehensive exploration programme, commencing with geophysical and geochemical surveys, is being advanced to assist on defining exploration targets expected to confirm the potential of the project area.

**MINERAL RESOURCE**

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling	Mine/Project	Category	Spacing	m (-x-)	Diamond	RC	Blast-hole	Other	Comments
Measured	Gramalote		25 x 25						
X									-

–	
–	
–	
Indicated	
50 x 50	
X	–
–	
–	
–	
Inferred	
100 x 100	
X	–
–	
–	
–	
Grade/Ore control	
–	
–	
–	
–	
–	
Inclusive Mineral Resource	
as at 31 December 2012	
Tonnes	
million	
Grade	
g/t	
Contained gold	
Gramalote	
Category	
Tonnes	Moz
Main Zone	
Measured	
15.68	
0.85	
13.30	
0.43	
Indicated	
34.36	
0.79	
27.21	
0.87	
Inferred	
81.19	
0.25	
20.16	
0.65	
Total	
131.23	
0.46	
60.67	

1.95  
Trinidad  
Measured

—  
—  
—  
—

Indicated

—  
—  
—  
—

Inferred

30.83

0.44

13.55

0.44

Total

30.83

0.44

13.55

0.44

Monjas West

Measured

—  
—  
—  
—

Indicated

—  
—  
—  
—

Inferred

8.35

0.62

5.16

0.17

Total

8.35

0.62

5.16

0.17

Gramalote

Total

170.41

0.47

79.38

2.55

GRAMALOTE

**continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**158**

}



The Mineral Resource estimate was independently audited and endorsed by Quantitative Group (QG) in February 2012. Since then, only the Monjas West model has been updated.

Exclusive Mineral Resource  
as at 31 December 2012

Tonnes  
million  
Grade  
g/t  
Contained gold  
Gramalote  
Category  
Tonnes           Moz

Measured

15.68

0.85

13.30

0.43

Indicated

34.36

0.79

27.21

0.87

Inferred

120.37

0.32

38.87

1.25

Gramalote

Total

170.41

0.47

79.38

2.55

Mineral Resource below infrastructure  
as at 31 December 2012

Tonnes  
million  
Grade  
g/t  
Contained gold  
Gramalote  
Category  
Tonnes           Moz

Measured

15.68

0.85

13.30

0.43

Indicated

34.36

0.79  
27.21  
0.87  
Inferred  
120.37  
0.32  
38.87  
1.25

Gramalote

Total

170.41

0.47

79.38

2.55

COMPETENT PERSON

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Alessandro Henrique Medeiros Silva

MAusIMM

224 831

11 years

Gramalote

Mineral Resource reconciliation: 2011 to 2012

1.99

0.00

0.40

0.00

0.17

0.00

0.00

0.00

2.55

Ounces (millions)

2.6

2.5

2.4

2.3

2.2

2.1

2.0

1.9

1.8

2011

Deple-

tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
Disposal  
2012  
Gramalote  
0  
50  
100  
150  
200  
250  
300  
0.0  
0.2  
0.4  
0.6  
0.8  
1.0  
1.2  
1.4  
Grade tonnage curve – Surface (metric)  
Tonnes above  
cut-off (millions)  
Average  
grade  
above  
cut-off (g/t)  
Cut-off grade (g/t)  
2.0  
1.6  
1.2  
0.8  
0.4  
0.0  
Tonnes above cut-off  
Ave grade above cut-off  
{  
**159**  
AMERICAS

## LA COLOSA

### LOCATION

La Colosa was discovered by AngloGold Ashanti's Colombian greenfields exploration team in 2006. The project is 100% owned by AngloGold Ashanti and is located 150km west of Colombia's capital city, Bogota, and 30km west of the major town of Ibague, which falls within the department of Tolima.

### GEOLOGY

The La Colosa project is centered on a late Miocene (8.1Ma) multiphase diorite porphyry gold complex intruded into reduced

Paleozoic metasedimentary rocks. Although the porphyry system is generally copper-poor, a 0.1 – 0.2% Cu anomaly associated

with Mo>150ppm occurs laterally and at depth. The highest grade gold mineralisation is closely associated with a suite of early

porphyry intrusions/breccias with potassic and sodic-calcic alteration, high intensity of Au-sulphide veinlets, and sulfur values generally

exceeding 2.5%. The multiphase diorite porphyry gold complex can be divided into three phases (early, intermineral and late) and

is elliptical in shape with a known maximum north-south axis of at least 1,200m. The complex strikes N10W with a dip of 75° east-

northeast, the contacts are mostly structurally bound.

The late phase of dacite porphyry intrusions occurs as a series of dykes that are all less than 40m in thickness but showing continuity

over at least 600 vertical metres. These dykes are assumed to be lateral offshoots of a ~1km<sup>2</sup> mapped body of dacite porphyry

occurring in the north-eastern corner of the project area. The main mapped body at least in part covers

early-intermineral diorite

mineralisation, both evidenced by drilling and geophysics.

### Alteration and mineralisation

The paragenesis of the main alteration starts with pervasive sodic-calcic alteration overprinted by potassic alteration and in turn,

cut by a sodic-calcic event. Potassic alteration, biotite and subordinate K-feldspar, occurs mainly as a pervasive replacement of the

porphyries, especially the early phases. The second sodic-calcic alteration clearly overprints the potassic assemblage and is largely

confined to irregular, centimetre-scale patches and well defined veinlets. The patches and veinlets contain epidote, actinolite and

chlorite, typically with white, 'albite-rich' haloes. Intermediate argillic and sericitic alteration are only weakly developed and only form

mappable zones in the dacite and in the northern limit of the deposit.

The early and intermineral porphyry appear to have been altered and mineralised at the time of their intrusion, since there is scant

evidence for veinlets crossing intrusive contacts. The gold content generally declines from early to intermineral diorite and is lowest

for late dacite porphyry.

The veinlets at La Colosa appear to span mostly the potassic to sodic-calcic alteration events. The earliest veinlets are composed of

quartz, biotite, K-feldspar, actinolite albite and pyrite/pyrite. The later Cu-Mo anomaly displays an increase in magnetite veinlets with

0.2% chalcopyrite and up to 0.5% molybdenite.

The main control of the bulk gold grade in the diorite or dacite intrusive stock is the intrusive phase where the mineralisation is hosted.

Early intrusive phases present higher and more consistent gold grade (average >1.1g/t). The inter-mineral diorite has average gold

grades less than 0.7g/t, the late dacite phase generally only has >0.3g/t gold grades close to the contact with early diorite phases.

The limited high grade zone in the northeast forming the >1.5 g Au/t envelope is centered on north-south striking steeply dipping

eastward faults within a >100m wide zone of deformation. Hydrothermal alteration includes a weak sericite overprint and pale biotite

(-smectite) alteration.

San Antonio is a small intrusive-breccia complex at the southern end of the La Colosa mineralised system. Intrusive rocks are

comparable to intermineral-late phase.

Gold deportment

Gold grains vary from almost pure gold to lesser amounts of gold-silver telluride. The gold grains are generally fine grained

around 15µm. Coarse grained gold (116µm) was found in samples from metamorphic rocks and from high grade intercepts.

Gold grains occur as both liberated and 'locked' in sulphides and silicates. A significant amount of gold is associated with

silicates such as K-feldspar and plagioclase. Sulphide minerals associated with gold are dominantly pyrite, with lesser amounts

of pyrrhotite and arsenopyrite.

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**160**

}

## EXPLORATION

The La Colosa Mineral Resource is located in a forest reserve as defined by the Colombian Government. An area of 6.39ha has been temporarily extracted within a boundary of 515ha allowing for drill platforms, access and camp sites. An additional area exchange programme is in progress requesting additional platforms both in grass and forest covered areas. The current exploration strategy is to define the overall limits of the deposit. Drilling is being done with man-portable drill rigs. Platforms and elevated access trails have been constructed in the forest to allow for Mineral Resource and geotechnical drilling in potentially higher grade sectors. Metallurgical samples to test for comminution and gold recovery have been collected from the intrusive rocks, schists, oxide and the San Antonio material. The drilling programme is ongoing and a total of 97,224m (259 holes) have been drilled to support the estimation of the Inferred Mineral Resource. The overall increase in the Mineral Resource at La Colosa is related to mineralisation found in the higher grade sector in the north-east, the north-south striking contact along the main axis between the intrusive diorite and hornfelsed schist, and the fault

{

**161**

AMERICAS

LA COLOSA

**continued**

bound north contact of the porphyry complex with diorite dykes extending into schists. Mineralisation in the schists further to the south, however, becomes more structurally controlled (axial plane foliation, brittle structures) and intercepts become narrower with spotty high grades in proximity to the dykes.

An oxide potential has been recognised and is related to secondary enrichment above intermediate argillically altered quartz diorite and dacite, mostly occurring in the north and northeast of the extracted exploration area.

**PROJECTS**

Following the significant drilling programme in 2012, a pre-feasibility study is underway. The Mineral Resource drilling plan for 2013 will focus on:

- an infill high-grade starter pit area;
- a medium and deep holes project; and
- an oxide potential project.

A detailed structural geological model is required for starter pit (and backfill) areas in metamorphic rocks and the limits of mineralisation in higher grade sectors. This work was initiated in 2011 and is on-going. The La Colosa porphyry centre appears to be related to a north-east opening graben structure. High-grade intercepts are related to northwest-southeast brittle structures. The present average drill spacing of 100m x 100m has been reviewed for Mineral Resource classification. The Mineral Resource classification will require the construction of additional platforms in the forest reserve, and therefore, additional forest extraction permits.

**MINERAL RESOURCE**

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling	Mine/Project	Category	Spacing	m (-x-)	Diamond	RC	Blast-hole	Other	Comments
Measured	La Colosa								
–									
–									
–									
–									
–									
Indicated									
–									
–									

–  
–  
–  
Inferred  
100 x 100  
X –

–  
–  
Plus additional drill holes at different  
spacing, angles and depth  
Grade/Ore control

–  
–  
–  
–  
–  
Inclusive Mineral Resource  
as at 31 December 2012  
Tonnes  
million  
Grade  
g/t

Contained gold  
La Colosa  
Category  
Tonnes  
Moz  
Open pit  
Measured

–  
–  
–  
–  
Indicated

–  
–  
–  
–  
Inferred  
904.86  
0.92  
834.76  
26.84  
La Colosa  
Total  
904.86  
0.92  
834.76  
26.84

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**



}

La Colosa

Mineral Resource reconciliation: 2011 to 2012

16.27

0.00

0.00

0.00

10.57

0.00

0.00

0.00

26.84

Ounces (millions)

28

26

24

22

20

18

16

14

2011

Depletion

Gold price

Cost

Exploration

Methodology

Other

Acquisition/

Disposal

2012

La Colosa

0

400

800

1,200

1,600

2,000

0.00

0.50

1.00

1.50

2.00

2.50

2.80

Grade tonnage curve – Surface (metric)

Tonnes

above

cut-off  
(millions)  
Average grade  
above cut-off (g/t)  
Cut-off grade (g/t)  
4.0  
3.5  
3.0  
2.5  
2.0  
1.5  
1.0  
0.5  
0.0  
Tonnes above cut-off  
Ave grade above cut-off  
Exclusive Mineral Resource  
as at 31 December 2012

Tonnes  
million  
Grade  
g/t  
Contained gold  
La Colosa  
Category  
Tonnes Moz  
Measured

–  
–  
–  
–  
Indicated  
–  
–  
–  
–

Inferred  
904.86  
0.92  
834.76  
26.84  
La Colosa  
Total  
904.86  
0.92  
834.76  
26.84

The La Colosa Mineral Resource is reported at a cut-off grade of 0.3g/t. The mineralisation has been classified as an Inferred Mineral Resource on the basis of an average drill-hole spacing of 100m x 100m. The Exclusive and Inclusive Mineral Resource numbers are

currently identical due to the absence of an Ore Reserve.

Mineral Resource below infrastructure

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

La Colosa

Category

Tonnes

Moz

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

904.86

0.92

834.76

26.84

La Colosa

Total

904.86

0.92

834.76

26.84

COMPETENT PERSON

Category

Name

Professional

organisation

Registration

number

Relevant

experience

Mineral Resource

Rudolf Jahoda

MAusIMM

990 544

21 years

{

**163**

AMERICAS

## COUNTRY OVERVIEW

AngloGold Ashanti currently operates one mine in the United States of America near Cripple Creek, Colorado. The Cresson Mine

is operated by the Cripple Creek and Victor Gold Mining Company (CC&V), a wholly-owned subsidiary of AngloGold Ashanti Ltd.

The corporate office for the Americas is located in Denver, Colorado.

CC&V currently controls over 85% of the patented claims within the district and 100% of the land containing the 2012 Mineral

Resource. The Ore Reserve and Mineral Resource are stated at 100% ownership basis, although portions of the Ore Reserve are

subject to third party royalties that vary according to individual agreements with the underlying property owner.

## MINERAL RESOURCE ESTIMATION

A single unified Mineral Resource model has been developed for the entire district. The unified model encompasses all known deposits

and drilling within the CC&V property. The estimation method is Multiple Indicator Kriging and the primary variable estimated is the recoverable gold.

An estimated iron and oxide model is utilised to interpolate block specific coefficients for input into the metallurgical recovery function.

The method for calculating nominal shake leach values is a regression technique using geologically logged categorical variables.

Updated drill-hole information is used throughout. The drill-hole database is thoroughly reviewed before each Mineral Resource

estimation and the estimation domains are based on lithology and structural domains for each deposit.

## ORE RESERVE ESTIMATION

The Ore Reserve pit designs were based on Lerch-Grossman (LG) optimisations of the Mineral Resource model. The LG algorithm

applies economic values to individual blocks and then generates a pit shell based on geotechnical constraints.

Successive nested

shells are generated until the economic limits of the pit are established. These shells are then used as a template for final mine design.

Pit slope designs for all deposits were based on geotechnical studies and range between 32° and 57°. All pits were designed using a

35 feet (10.7m) bench height except South Cresson, which utilises 20 feet (6.1m).

## UNITED STATES OF AMERICA

### 2012 MINERAL RESOURCE AND ORE RESERVE REPORT

164

}

## LOCATION

The mining operations at CC&V are located in central Colorado, USA, approximately 25km east of Colorado Springs. The mining district is located between the communities of Cripple Creek, to the northwest, and Victor, in the south.

## GEOLOGY

The dominant geological feature of the district is a 34Ma to 28Ma diatreme-intrusive that erupted through Precambrian rocks.

The diatreme-intrusive complex is 6.4km long, 3.2km wide and consists of diatremal breccia that has been intruded by stocks,

dykes and discordant breccias. Diatremal breccia lithologies include breccias composed exclusively of volcanic, Precambrian or

sedimentary material or any combination of the three. Early intrusions are predominantly within these alkaline phonolite-phonotephrite

series of rocks and were followed by later lamprophyres. All rocks have undergone minor structural deformation and a complex

history of hydrothermal alteration. Gold mineralisation, dated between 27.8Ma and 26.6Ma, is hosted in all rock types as veins.

The mineralisation can also be disseminated or can occur in structurally-controlled deposits. Primary ore minerals include microscopic

native gold, native gold with pyrite and gold tellurides. Silver is present but has minimal economic importance.

## EXPLORATION

Exploration activities during 2012 focused on three different programmes:

- upgrading of the Mineral Resource to allow for conversion to Ore Reserve for the low-grade, heap-leach operations;
- further definition of higher-grade zones within the open-pit design shells; and
- drill testing of high-grade zones that lie outside the pit designs, but could be mined by underground methods.

A total of 39,000m was drilled during 2012, which included approximately 32,000m of reverse circulation (RC)

drilling and 7,000m of

diamond drilling (DD).

## PROJECTS

The exploration activities were conducted under the Mine Life Extension-2 (MLE-2) project as well as the underground project.

MLE-2 is evaluating the extension of the mine life by adding low-grade, heap-leach tonnes to the Ore Reserve with the construction

of a plant to process high-grade zones of mineralisation that are intersected during the open pit mining activity. The underground

programme is exploring for tonnes that can be mined underground to supplement plant feed.

## MINERAL RESOURCE

Details of average drill-hole spacing and type in relation to Mineral Resource classification

Type of drilling

Mine/Project

Category

Spacing

m (-x-)

Diamond

RC

Blast-

hole

Other

Comments

CC&V

Measured

30 x 30

X            X            -

-

RC primarily, diamond drill core is used for confirmation of RC drilling results, metallurgical testing and geotechnical high wall design

Indicated

45 x 45

X            X            -

-

Inferred

75 x 75

X            X            -

-

Grade/Ore control      5 x 6

-

-

X            -

-

CC&V

{

**165**

AMERICAS

CC&V

**continued**

Inclusive Mineral Resource

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold

CC&V

Category

Tonnes

Moz

Wild Horse

Measured

10.14

0.60

6.13

0.20

Indicated

6.83

0.60

4.09

0.13

Inferred

2.60

0.56

1.47

0.05

Total

19.58

0.60

11.68

0.38

Wild Horse Extension

Measured

40.73

1.06

42.98

1.38

Indicated

18.63

0.74

13.86

0.45

Inferred

2.17

0.48

1.03

0.03

Total

61.53



0.94  
57.87  
1.86  
Altman  
Measured  
18.48  
1.06  
19.55  
0.63  
Indicated  
13.28  
0.99  
13.11  
0.42  
Inferred  
5.28  
1.00  
5.27  
0.17  
Total  
37.04  
1.02  
37.92  
1.22  
Schist Island  
Measured  
27.96  
0.67  
18.75  
0.60  
Indicated  
15.42  
0.59  
9.10  
0.29  
Inferred  
2.47  
0.47  
1.15  
0.04  
Total  
45.85  
0.63  
29.00  
0.93  
Globe Hill  
Measured  
41.66  
0.58  
24.00  
0.77

Indicated

39.73

0.59

23.53

0.76

Inferred

13.17

0.66

8.70

0.28

Total

94.56

0.59

56.23

1.81

Ironclad

Measured

10.79

0.55

5.93

0.19

Indicated

17.23

0.52

9.04

0.29

Inferred

19.87

0.53

10.52

0.34

Total

47.89

0.53

25.49

0.82

Cresson

Measured

99.69

0.74

73.88

2.38

Indicated

89.54

0.66

59.15

1.90

Inferred

35.09

0.61

21.47

0.69  
Total  
224.32  
0.69  
154.51  
4.97  
Portland  
Measured  
2.87  
1.05  
3.00  
0.10  
Indicated  
3.92  
1.15  
4.49  
0.14  
Inferred  
3.27  
1.14  
3.73  
0.12  
Total  
10.06  
1.12  
11.23  
0.36  
South Cresson  
Measured  
15.25  
0.85  
13.02  
0.42  
Indicated  
4.31  
0.85  
3.68  
0.12  
Inferred  
0.64  
0.82  
0.53  
0.02  
Total  
20.20  
0.85  
17.22  
0.55  
CC&V  
Total  
561.02

0.72

401.15

12.90

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**166**

}

*Americas: CC&V*

{

**167**

AMERICAS

CC&V

**continued**

CC&V

Mineral Resource reconciliation: 2011 to 2012

2011

13.98

Deple-  
tion

-0.50

Gold

price

0.83

Cost

-1.04

Explo-  
ration

0.02

Metho-  
dology

0.00

Other

-0.40

Acquisition/  
Disposal

0.00

2012

12.90

Ounces (millions)

14.4

14.2

14.0

13.8

13.6

13.4

13.2

13.0

12.8

12.6

CC&V

Ore Reserve reconciliation: 2011 to 2012

2011

6.25

Depletion

-0.54

Model

change

-0.05

Change

in

economics

0.38

New  
 ounces  
 from  
 projects  
 0.00  
 Scope  
 change  
 0.04  
 Other  
 -0.21  
 Acquisition/  
 Disposal  
 0.00  
 2012  
 5.88  
 Ounces (millions)  
 6.3  
 6.2  
 6.1  
 6.0  
 5.9  
 5.8  
 5.7  
 5.6  
 5.5  
 Exclusive Mineral Resource  
 as at 31 December 2012  
 Tonnes  
 million  
 Grade  
 g/t  
 Contained gold  
 CC&V  
 Category  
 Tonnes            Moz  
 Measured  
 112.75  
 0.72  
 81.08  
 2.61  
 Indicated  
 126.54  
 0.66  
 83.21  
 2.68  
 Inferred  
 84.56  
 0.64  
 53.87  
 1.73  
 CC&V

Total  
 323.85  
 0.67  
 218.16  
 7.01

The Exclusive Mineral Resource material lies immediately outside the designed shells that hold the Ore Reserve. The mineralised zones are generally extensions of those seen within the Ore Reserve shells and some of these tonnes will convert to Ore Reserve with additional drilling.

ORE RESERVE

Ore Reserve  
 as at 31 December 2012

Tonnes  
 million  
 Grade  
 g/t

Contained gold

CC&V

Category

Tonnes            Moz

Cresson

Proved

57.03

0.83

47.51

1.53

Probable

33.76

0.74

25.11

0.81

Total

90.79

0.80

72.62

2.33

South Cresson

Proved

14.66

0.87

12.78

0.41

Probable

3.85

0.98

3.77

0.12

Total

18.51

0.89



16.55

0.53

Wild Horse Extension

Proved

33.51

1.07

35.83

1.15

Probable

13.27

0.74

9.80

0.32

Total

46.78

0.98

45.63

1.47

Globe Hill

Proved

32.86

0.57

18.87

0.61

Probable

25.44

0.57

14.57

0.47

Total

58.30

0.57

33.44

1.07

Schist Island

Proved

16.77

0.67

11.18

0.36

Probable

6.04

0.59

3.59

0.12

Total

22.81

0.65

14.77

0.47

CC&V

Total

237.16

0.77

182.99

5.88

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**168**

}

Ore Reserve modifying factors

% RRF

% MRF

as at

31 December 2012

CC&V

Gold

price

\$/oz

Cut-off

value g/t

Au

Dilution

%

Dilution

g/t

(based

on

tonnes)

% RRF

(based

on g/t)

(based

on

tonnes)

% MRF

(based

on g/t)

MCF

%

MetRF

%

Cresson

1,300

0.17

0.00

0.00

95.0

101.0

103.0

98.0

—

43.0 to

95.0\*

*\*Recovery factor varies according to ore type.*

Inferred Mineral Resource in business plan

as at 31 December 2012

Tonnes

million

Grade

g/t

Contained gold	
CC&V	
Tonnes	Moz
Comment	
Cresson	
3.30	
0.59	
1.93	
0.06	
–	
South Cresson	
0.45	
1.40	
0.63	
0.02	
–	
Wild Horse Extension	
1.03	
0.49	
0.51	
0.02	
–	
Globe Hill	
5.24	
0.58	
3.07	
0.10	
–	
Schist Island	
0.88	
0.47	
0.41	
0.01	
–	
Total	
10.90	
0.60	
6.55	
0.21	
–	

The Inferred Mineral Resource in business plan is approximately 4.6% of the Proved and Probable Ore Reserve tonnes and 3.6% of the Proved and Probable Ore Reserve ounces of gold.

The Inferred Mineral Resource is not used in the optimisation process for the Ore Reserve shells. The Inferred Mineral Resource tonnes are generally located near the surface of pits that have not yet been mined. Some of this material is also found at the bottom of the Ore Reserve pits where the drill density is not as quite as uniform as in other areas.

#### COMPETENT PERSONS

Category  
Name

Professional  
organisation  
Registration  
number

Relevant  
experience  
Mineral Resource

Tim Brown

MAusIMM

226 857

26 years

Ore Reserve

Jeff Gaul

SME

4156 989

22 years

CC&V

0

100

200

300

400

500

600

700

800

0.0

0.2

0.4

0.6

0.8

1.0

1.2

1.4

Grade tonnage curve – Surface (metric)

Tonnes above

cut-off (millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

2.2

1.8

1.4

1.0

0.6

0.2

Tonnes above cut-off

Ave grade above cut-off

{  
**169**  
DEFINITIONS

## MINERAL RESOURCE

The JORC Code, 2004 edition, definition of a Mineral Resource is as follows:

A 'Mineral Resource' is a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in

such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity,

grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into

Inferred, Indicated and Measured categories.

The Mineral Resource is estimated using all drilling and sampling information along with a detailed geological model.

The geological models are based on core logging, mapping, geophysics, geochemistry and geological understanding that have

been developed for each deposit. Most of the AngloGold Ashanti deposits have been the subject of research by world experts

in the class of gold deposits.

The grade estimation for each deposit has been developed over the life of the mine and is constantly reviewed in terms of grade control

information and reconciliation with the metallurgical plant. In general, the deep South African mines utilise a process of compound log

normal macro co-kriging for the estimation of the Mineral Resource, while the open pits and shallow underground mines generally use

recoverable Mineral Resource models, estimated using Uniform Conditioning or multiple indicator kriging.

In order to comply with the economic requirement of the definition of Mineral Resource, all AngloGold Ashanti Mineral Resources

are constrained at an upside gold price, with all other parameters being kept the same as used for estimation of the Ore Reserve.

In the underground gold mines, scoping studies are conducted on all coherent blocks of ground that lie above the calculated Mineral

Resource cut-off. These studies include all cost and capital requirements to access the block. In the case of open pit operations,

pit optimisations are conducted at the Mineral Resource gold price and all material outside these shells is excluded from the Mineral

Resource, unless it is potentially mineable from underground.

It is the opinion of AngloGold Ashanti that the Mineral Resource represents a realistic view of an upside potential to the Ore Reserve.

In interpreting the Mineral Resource it is critical to factor in the following:

- 

The Mineral Resource is quoted in situ and has not been corrected for dilution, mining losses or recovery.

- 

The Mineral Resource includes a high percentage of Inferred material, which, following further exploration drilling may be converted

to an Indicated or Measured Mineral Resource.

- 

Many of the areas lying in the exclusive Mineral Resource are currently being actively drilled and are the subject of economic and

technical studies. It can, however, not be assumed at this stage that the company has intent to mine these areas.

Mineral Resource classification is based on the '15% Rule'. A Measured Mineral Resource should be expected to be within 15% of the

quarterly metal estimate at least 90% of the time, while for an Indicated Mineral Resource estimate the annual metal estimate should

be within 15% of the metal estimated at least 90% of the time. For an Inferred Mineral Resource the annual error may for 90% of the time, be greater than 15%.

The process and methodology of classification are at the discretion of the Competent Person and involves expressing the '15%

Rule' as a required level of information, in tangible terms the spacing of the drill hole or tunnel spacing in a particular deposit.

Techniques such as conditional simulation or even an empirical reconciliation-based approach are employed.

However, all operations

are responsible for demonstrating, through reconciliation, that their classification system conforms to the 15% rule set out above.

AngloGold Ashanti quotes its Mineral Resource as inclusive of the Ore Reserve. However, in this document the exclusive Mineral

Resource is also quoted. The exclusive Mineral Resource is defined as the inclusive Mineral Resource less the Ore Reserve before

dilution and other factors are applied.

DEFINITIONS

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**170**

}



The exclusive Mineral Resource consists of the following components:

- Inferred Mineral Resource within the optimised shell;
- Other Inferred Mineral Resource;
- Measured and Indicated Mineral Resource that lies between the Life of Mine pit shell/mine design and the Mineral Resource pit shell.  
This material will become economic if the gold price increases; and
- Mineral Resource where the technical studies to engineer an Ore Reserve have not yet been completed.

#### ORE RESERVE

The JORC Code, 2004 edition, definition of an Ore Reserve is as follows:

An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting

materials and allowances for losses, which may occur when the material is mined. Appropriate assessments and studies have

been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic,

marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting

that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable

Ore Reserves and Proved Ore Reserves.

The reference point at which Reserves are defined, usually the point where the ore is delivered to the processing plant, must be

stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement

is included to ensure that the reader is fully informed as to what is being reported.

Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves.

In the underground operations, the Ore Reserve is based on a full mine design and in the case of open pits on a pit optimisation

followed by a final pit design. The Ore Reserve is reported according to tonnage, mean grade(s), and contained metal inclusive of

mining dilution, mining ore losses and mine call factors. These modifying factors are based on measurements, rather than estimates.

Tonnage and grade estimates for surface stockpile materials that meet Ore Reserve criteria are itemised separately.

Only the Ore Reserve included for treatment in the business unit plan production schedule is considered in the Ore Reserve statement.

These sometimes include marginal or sub-grade ores as well as the Inferred Mineral Resource. This Inferred Mineral Resource is not

included in the Ore Reserve statement.

For all new projects, an audited pre-feasibility (as a minimum requirement) must have been completed that demonstrates the viability

of the project and meets the company's investment requirements. This study must be signed off at the appropriate executive level in

order to demonstrate an intent on the part of the company to proceed to feasibility and ultimately to implement the project.

{

171

DEFINITIONS

ALL TERMS

BIF

Banded Ironstone Formation. A chemically formed iron-rich sedimentary rock.

By-products

Any products that emanate from the core process of producing gold, including silver, uranium and sulphuric acid.

Calc-silicate rock

A metamorphic rock consisting mainly of calcium-bearing silicates such as diopside and wollastonite, and formed by metamorphism

of impure limestone or dolomite.

Capital expenditure

Total capital expenditure on tangible assets which includes stay-in-business and project capital.

Carbon-in-leach (CIL)

Gold is leached from a slurry of gold ore with cyanide in agitated tanks and adsorbed on to carbon granules in the same circuit.

The carbon granules are separated from the slurry and treated in an elution circuit to remove the gold.

Carbon-in-pulp (CIP)

Gold is leached conventionally from a slurry of gold ore with cyanide in agitated tanks. The leached slurry then passes into the

CIP circuit where carbon granules are mixed with the slurry and gold is adsorbed on to the carbon. The granules are separated from

the slurry and treated in an elution circuit to remove the gold.

Comminution

Comminution is the crushing and grinding of ore to make gold available for treatment. (See also 'Milling').

Contained gold

The total gold content (tonne multiplied by grade) of the material being described.

Cut-off grade – surface mines (COG)

The minimum grade at which a unit of ore will be mined to achieve the desired economic outcome.

Dense media separation (DMS)

Dense media separation (using high density liquids to separate ore).

Depletion

The decrease in quantity of ore in a deposit or property resulting from extraction or production.

Development

The process of accessing a deposit through shafts and/or tunnelling in underground mining operations.

Electro-winning

A process of recovering gold from solution by means of electrolytic chemical reaction into a form that can be smelted easily

into gold bars.

Elution

Recovery of the gold from the activated carbon into solution before zinc precipitation or electro-winning.

Full grade ore (FGO)

FGO is ore material with sufficient grade to carry the full operating cost. FGO cut-off is the break-even grade where cost is representative

of all costs to carry the full operation excluding direct mining cost.

Gold produced

Refined gold in a saleable form derived from the mining process.

Grade

The quantity of gold contained within a unit weight of gold-bearing material generally expressed in ounces per short ton of ore (oz/t),

or grams per metric tonne (g/t).

Induced Polarisation (IP)

A geophysics technique widely used in the exploration for deposits.

GLOSSARY OF TERMS

**2012** MINERAL RESOURCE AND ORE RESERVE REPORT

**172**

}

Leaching

Dissolution of gold from crushed or milled material, including reclaimed slime, prior to adsorption on to activated carbon.

Life of Mine (LOM)

Number of years that the operation is planning to mine and treat ore, and is taken from the current mine plan.

Marginal ore (MO)

MO is ore material with grade below the FGO cut-off that can be economically treated at the end of mine life when overhead and

mining costs are reduced. MO cut-off is the break-even grade where cost is representative of the reduced cost that will be experienced

after mining has ended.

Metallurgical plant

A processing plant erected to treat ore and extract gold.

Milling

A process of reducing broken ore to a size at which concentrating can be undertaken. (See also 'Comminution')

Mine call factor (MCF)

The ratio, expressed as a percentage, of the total quantity of recovered and unrecovered mineral product after processing with

the amount estimated in the ore based on sampling. The ratio of contained gold delivered to the metallurgical plant divided by the

estimated contained gold of ore mined based on sampling.

Metallurgical recovery factor (MetRF)

A measure of the efficiency in extracting gold from the ore deposit.

Mineral deposit

A mineral deposit is a concentration (or occurrence) of material of possible economic interest in or on the Earth's crust.

Mining reconciliation factor (MRF)

This is the variance between the gold called for as defined by the ore perimeters and what the processing plant receives.

It is

expressed in both a grade and tonnage number.

Net present value (NPV)

The difference between the present value of cash inflows and the present value of cash outflows.

Ounce (oz) (troy)

Used in imperial statistics. A kilogram is equal to 32.1507 ounces. A troy ounce is equal to 31.1035 grams.

Pay limit

The grade of a unit of ore at which the revenue from the recovered mineral content of the ore is equal to the total cash cost including

Ore Reserve Development and stay-in-business capital. This grade is expressed as an *in-situ* value in grams per tonne or ounces per

short ton (before dilution and mineral losses).

Reclamation

In the South African context, reclamation describes the process of reclaiming slimes (tailings) dumps using high-pressure water

cannons to form a slurry which is pumped back to the metallurgical plants for processing.

Recovered grade

The recovered mineral content per unit of ore treated.

Reef

A gold-bearing sedimentary horizon, normally a conglomerate band that may contain economic levels of gold.

Refining

The final purification process of a metal or mineral.

Region

Defines the operational management divisions within AngloGold Ashanti, namely South Africa, Continental Africa (DRC, Ghana, Guinea, Mali, Namibia and Tanzania), Australasia (Australia) and the Americas (Argentina, Brazil, Colombia and the United States of America).

{

**173**

GLOSSARY OF TERMS

Rehabilitation

The process of reclaiming land disturbed by mining to allow an appropriate post-mining use. Rehabilitation standards are defined

by country-specific laws including, but not limited to the South African Department of Mineral Resources, the US Bureau of Land

Management, the US Forest Service, and the relevant Australian mining authorities, and address among other issues, ground and

surface water, topsoil, final slope gradient, waste handling and re-vegetation issues.

Resource to Reserve reconciliation factor (RRF)

This is the variance between the Mineral Resource model and the Ore Reserve parameters.

Seismic event

A sudden inelastic deformation within a given volume of rock that radiates detectable seismic energy.

Shaft

A vertical or subvertical excavation used for accessing an underground mine; for transporting personnel, equipment and supplies; for

hoisting ore and waste; for ventilation and utilities; and/or as an auxiliary exit.

Smelting

A pyro-metallurgical operation in which gold is further separated from impurities.

SMU

The selective mining unit (SMU) reflects mining selectivity and it is the smallest unit that can be mined at a particular operation with

the equipment available at that site.

Stay-in-business capital

Capital expenditure to maintain existing production assets. This includes replacement of vehicles, plant and machinery, ore reserve

development and capital expenditure related to safety, health and the environment.

Stope

Underground excavation where the mineralised deposit is extracted.

Stoping

The process of excavating ore underground.

Stripping ratio

The ratio of waste tonnes to ore tonnes mined calculated as total tonnes mined less ore tonnes mined divided by ore tonnes mined.

Tailings

Finely ground rock of low residual value from which valuable minerals have been extracted.

Tailings dam (slimes dam)

Dam facilities designed to store discarded tailings.

Tonne

Used in metric statistics. Equal to 1,000 kilograms.

Tonnage

Quantity of material measured in tonnes.

Waste

Material that contains insufficient mineralisation for consideration for future treatment and, as such, is discarded.

GLOSSARY OF TERMS

**continued**

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**174**

}

ABBREVIATIONS

°  
Degrees  
kg/t  
Kilograms per tonne  
'  
Minutes  
km  
Kilometres  
\$  
United States dollars  
LIB  
Long inclined borehole  
3D  
Three-dimensional space  
LOM  
Life of Mine  
AC  
Aircore drilling  
M or m  
Metre or million, depending on the context  
Ag  
Silver  
m<sup>2</sup>  
Square metre  
AGA  
AngloGold Ashanti  
MCF  
Mine Call Factor  
AGK  
Ashanti Goldfields Kilo  
MetRF  
Metallurgical Recovery Factor  
ARS  
Argentinian Peso  
Mlb  
Million pounds  
ASX  
Australian Securities Exchange  
Moz  
Million ounces  
Au  
Contained gold  
MRF  
Mining Reconciliation Factor  
AUD  
Australian dollar  
mRL  
Metres relative level  
Avg.

Average  
Mt  
Million tonnes (metric)  
BAL  
Balancão  
Mtpa  
Million tonnes per annum  
BP  
Business Plan  
NPV  
Net present value  
BRL  
Brazilian Real  
oz  
Ounces (troy)  
capex  
Capital expenditure  
R or ZAR  
South African rand  
CdS  
Córrego do Sítio  
RC  
Reverse circulation drilling  
CLR  
Carbon Leader Reef  
RRF  
Resource to Reserve reconciliation factor  
cm  
Centimetres  
S  
Sulphur  
cm.g/t  
Centimetre grams per tonne  
SAMREC  
The South African Code for the Reporting of  
C Reef  
Crystalkop Reef  
Exploration Results, Mineral Resources and  
DD  
Diamond drilling  
Mineral Reserves (The SAMREC Code)  
DRC  
Democratic Republic of the Congo  
SER  
Serrotinho deposit  
DMS  
Dense Media Separation  
SMU  
Selective mining unit  
ESIA  
Environmental and social impact assessment



SSP

Sadiola Sulphide Project

EM

Electromagnetic

t

Tonnes (metric)

FGS

Fonte Grande Sul

tpa

Tonnes per annum

g

Grams

TSF

Tailings storage facility

GC

Grade control

tph

Tonnes per hour

g/t

Grams per tonne

tpm

Tonnes per month

ha

Hectare

U

3

O

8

Uranium Oxide

JORC

Australasian Code for Reporting Exploration

VCR

Ventersdorp Contact Reef

Results, Mineral Resources and Ore Reserves

VR

Vaal Reef

JSE

Johannesburg Stock Exchange Limited

XRF

X-ray fluorescence

kg

Kilograms

{

**175**

ABBREVIATIONS

ADMINISTRATIVE INFORMATION

*AngloGold Ashanti publishes important information about the company on the main page of its website [www.anglogoldashanti.com](http://www.anglogoldashanti.com) under the "Investors" tab. This information is updated regularly. Investors are encouraged to regularly visit the website to access this information.*

ANGLOGOLD ASHANTI LIMITED

Registration No. 1944/017354/06

Incorporated in the Republic of South Africa

Share codes:

ISIN:

ZAE000043485

JSE:

ANG

LSE:

AGD

NYSE:

AU

ASX:

AGG

GhSE (Shares):

AGA

GhSE (GhDS):

AAD

JSE Sponsor:

UBS (South Africa) (Pty) Limited

Auditors:

Ernst & Young Inc.

Offices:

**Registered and Corporate**

76 Jeppe Street

Newtown 2001

(PO Box 62117, Marshalltown 2107)

South Africa

Telephone: +27 11 637 6000

Fax: +27 11 637 6624

**Australia**

Level 13,

St Martins Tower

44 St George's Terrace

Perth, WA 6000

(PO Box Z5046, Perth WA 6831)

Australia

Telephone: +61 8 9425 4602

Fax: +61 8 9425 4662

**Ghana**

Gold House

Patrice Lumumba Road

(PO Box 2665)

Accra

Ghana

Telephone: +233 303 772190

Fax: +233 303 778155

**United Kingdom Secretaries**

St James's Corporate Services Limited

6 St James's Place

London SW1A 1NP

England

Telephone: +44 20 7499 3916

Fax: +44 20 7491 1989

E-mail: jane.kirton@corpserv.co.uk

**DIRECTORS**

Executive

M Cutifani (Chief Executive Officer)

~

S Venkatakrishnan (Chief Financial Officer)

\* §

AM O'Neill (Executive Director: Business  
and Technical Development)

~

Non-executive

TT Mboweni (Chairman)

^

FB Arisman

#

R Gasant

^

NP January-Bardill

^

MJ Kirkwood

\*

WA Nairn

^

Prof LW Nkuhlu

^

F Ohene-Kena

±

SM Pityana

^

RJ Ruston

~

\* British

# American

§ Indian

~ Australian

^ South African ± Ghanaian

Officers

Group General Counsel and Company Secretary

ME Sanz Perez

Investor relations contacts:

**South Africa**

Fundisa Mgidi

Telephone: +27 11 637 6763

Mobile: +27 82 374 8820  
E-mail: fmgidi@anglogoldashanti.com

**United Kingdom**

Michael Bedford  
Telephone: +44 1225 93 8483  
Mobile: +44 779 497 7881  
E-mail: mbedford@anglogoldashanti.com

**United States**

Stewart Bailey  
Telephone: +1 212 858 7701  
Mobile: +1 646 338 4337  
E-Mail: sbailey@anglogoldashantina.com  
Sabrina Brockman  
Telephone: +1 212 858 7702  
Mobile: +1 646 379 2555  
E-mail: sbrockman@anglogoldashantina.com

General e-mail enquiries:

Investors@anglogoldashanti.com

AngloGold Ashanti website:

www.anglogoldashanti.com

Company secretarial e-mail:

Companysecretary@anglogoldashanti.com

**2012 MINERAL RESOURCE AND ORE RESERVE REPORT**

**176**

}

6696/12

The Annual Integrated Report, the primary document in the suite of reports which has been produced in line with the recommendations of the King Code of Governance for South Africa, 2009 (King III) and the Listings Requirements of the Johannesburg Stock Exchange (JSE), the home of our primary listing. We have taken cognisance of local and international recommendations on integrated reporting in developing our report content, and the style of reporting. It contains an holistic view of our business – now and in the future – containing operational, financial and non-financial information. As this is a group-level report, operational targets and performance are discussed at a group level. This report is available online and, on request, as a printed report.

Stakeholders seeking more detailed and specific information are referred to the reports listed below.

The Annual Financial Statements, which has been prepared in accordance with: the International Financial Reporting Standards (IFRS); the South African Companies Act, 71 of 2008 (as amended); and the Listings Requirements of the JSE. This report is submitted to the JSE in South Africa, as well as the London, New York, Ghana and Australian stock exchanges on which AngloGold Ashanti is listed. This report is available online and, on request, as a printed report.

Our Sustainability Report, which provides insight into our approach to sustainability, and objectives, strategy and performance. This global report focuses on those sustainability issues that have been determined to be most important to us and to our stakeholders. This report is available online and, on request, as a printed report.

Our Online Sustainability Report, which provides a more comprehensive view of our business, has been produced in accordance with the Global Reporting Initiative's (GRI) 3.0 guidelines, as well as GRI's Mining and Metals Sector Supplement, the Sustainable Development Framework of the International Council on Metals and Mining (ICMM), the principles of the United Nations Global Compact (UNGC) and the Extractive Industries Reporting Initiative (EITI). This report is available online.

This report, our Mineral Resource and Ore Reserve Report, which records our Mineral Resource and Ore Reserve in accordance with the South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (The SAMREC Code, 2007 edition), and the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2004 edition). This report has been prepared and reviewed with consent by the Competent Persons as defined in terms of these codes.

Our Operational Profiles, which provide detailed financial and non-financial information on each of our operations and projects. These are available online at [www.aga-reports.com](http://www.aga-reports.com),

and are downloadable in a pdf format.

A Notice of Meeting to shareholders together with the relevant voting instruction forms for the stock exchanges at which the company is listed. These provide details of the forthcoming annual general meeting and of the resolutions on which shareholders are to vote.

Additional supporting material including the document entitled “Risk Factors related to AngloGold Ashanti’s suite of 2012 reports”, which was previously in the Annual Financial Statements, is available on AngloGold Ashanti’s online corporate report website [www.aga-reports.com](http://www.aga-reports.com).

In compliance with the rules governing its listing on the NYSE and in accordance with the accounting principles generally accepted in the United States, AngloGold Ashanti prepares an annual report on Form 20-F which is filed each year. The full suite of 2012 reports will be furnished to the United States Securities and Exchange Commission (SEC) on a Form 6-K.

#### GUIDE TO USING OUR REPORTS

Briefly, this suite of AngloGold Ashanti annual reports to stakeholders 2012 comprises the following:

*The inside pages of this report were printed on Triple Green Silk 135gsm. A local double coated, high-white, wood-free coated art paper produced by Sappi at the Stanger Mill in South Africa. ISO 9001 and 14001 certification. PEFC, Sustainable Forest Initiative, FSC and CoC standards compliant. Sappi Stanger Mill is one of the only mills in the world that uses bagasse as its primary source of pulp. The pulp is a by-product of sugar production, being the fibrous material remaining after raw sugar has been extracted from sugar cane. This paper is free of both acid and elemental chlorine and is recyclable.*

**Our primary platform** for reporting is our online report at [www.aga-reports.com](http://www.aga-reports.com)

**SHARE REGISTRARS**

South Africa

Computershare Investor Services (Pty) Limited

Ground Floor, 70 Marshall Street

Johannesburg 2001

(PO Box 61051, Marshalltown 2107)

South Africa

Telephone: 0861 100 950 (in SA)

Fax: +27 11 688 5218

Website: queries@computershare.co.za

United Kingdom

**Shares**

Computershare Investor Services (Jersey) Ltd

Queensway House

Hilgrove Street

St Helier

Jersey JE1 1ES

Telephone: +44 (0) 870 889 3177

Fax: +44 (0) 870 873 5851

**Depository Interests**

Computershare Investor Services PLC

The Pavilions

Bridgwater Road

Bristol BS13 8AE

England

Telephone: +44 (0) 870 702 0000

Fax: +44 (0) 870 703 6119

Australia

Computershare Investor Services Pty Limited

Level 2, 45 St George's Terrace

Perth, WA 6000

(GPO Box D182 Perth, WA 6840)

Australia

Telephone: +61 8 9323 2000

Telephone: 1300 55 2949 (in Australia)

Fax: +61 8 9323 2033

Ghana

NTHC Limited

Martco House

Off Kwame Nkrumah Avenue

PO Box K1A 9563 Airport

Accra

Ghana

Telephone: +233 302 229664

Fax: +233 302 229975

ADR Depository

The Bank of New York Mellon (BoNY)

BNY Shareowner Services

PO Box 358016

Pittsburgh, PA 15252-8016

United States of America

Telephone: +1 800 522 6645 (Toll free in USA)  
or +1 201 680 6578 (outside USA)

E-mail: shrrelations@mellon.com

Website: www.bnymellon.com.com\shareowner

**Global BuyDIRECTSM**

BoNY maintains a direct share purchase and dividend reinvestment plan for AngloGold Ashanti.

Telephone:

+1-888-BNY-ADRS

**2012**

{  
ANNUAL  
FINANCIAL  
STATEMENTS  
ANNUAL  
FINANCIAL  
STATEMENTS

•

Assurance statement

•

Remuneration report

•

Corporate governance

•

Financial results

•

Non-GAAP disclosure

FS

ANNUAL  
INTEGRATED  
REPORT

•

Regional review  
of operations

•

Non-GAAP summary

•

Approach to risk

•

Letter from Chairman  
and CEO

**2012**

{  
ONLINE  
SUSTAINABILITY  
REPORT  
ONLINE  
SUSTAINABILITY  
REPORT

(only available online)

•



Assurance statement

•

GRI compliance

•

Sustainability performance

•

UNGC compliance

•

ICMM compliance

•

Case studies

OS

**2012**

{

SUSTAINABILITY

REPORT

SUSTAINABILITY

REPORT

•

Letter from CEO

•

Material sustainability  
issues

•

Approach to risk

•

Sustainability performance

•

Panel feedback

SR

**2012**

{

ANNUAL

INTEGRATED

REPORT

**2012**

{

MINERAL RESOURCE

AND ORE RESERVE

REPORT

MINERAL RESOURCE

AND ORE RESERVE

REPORT

•

Proved and Probable Ore  
Reserve

•

Measured, Indicated and  
Inferred Mineral Resource

IR

RR

**YOU  
ARE  
HERE**

**2012**

MINERAL  
RESOURCE AND  
ORE RESERVE  
REPORT

**2012**

}

MINERAL RESOURCE  
AND ORE RESERVE  
REPORT

[WWW.ANGLOGOLDASHANTI.COM](http://WWW.ANGLOGOLDASHANTI.COM)

Download the full  
Mineral Resource  
and Ore Reserve  
Report 2012

**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.

AngloGold Ashanti Limited

Date: April 11, 2013

By:

/s/ M E SANZ PEREZ

Name: M E Sanz Perez

Title: Group General Counsel and Company  
Secretary