

ANGLOGOLD ASHANTI LTD

Form 6-K

March 31, 2011

**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 March 31, 2011

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: Press release

ANGLOGOLD ASHANTI MINERAL RESOURCE AND ORE

RESERVE STATEMENT 2010

gold  
Mineral Resource and Ore Reserve  
Report **2010**  
**pure**

Scope of 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 (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 2010:

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; 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 2010, is a key component of the AngloGold Ashanti suite of 2010

annual reports produced to record the company's performance regarding its finances, operations and sustainability activities for the

12 months ended 31 December 2010. Other major documents in this suite of reports are the Annual Financial Statements 2010 and

the Sustainability Review 2010, both of which are available on the corporate website, [www.anglogoldashanti.com](http://www.anglogoldashanti.com).

The Annual Financial Statements 2010 contains a summary extract of AngloGold Ashanti's Mineral Resource and Ore Reserve.

*Note: Rounding of figures in this document may result in minor computational discrepancies. Throughout this report, dollar or*

*\$ represents US dollar unless otherwise stated. All grade tonnage graphs in this document are for Mineral Resources.*

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**United States**

Cripple Creek & Victor 233,000oz

**Colombia**

La Colosa

Gramalote

**Brazil**

Serra Grande

77,000oz

AGA Mineração

338,000oz

Operations

Projects

Marine exploration

**Argentina**

Cerro Vanguardia

194,000oz

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Corporate profile**

Corporate profile

**Locations of operations**

Headquartered in Johannesburg, South Africa,

AngloGold Ashanti has 20 operations on four continents and several exploration programmes in both the established and new gold-producing regions of the world.

AngloGold Ashanti employed 62,046 people, including contractors, in 2010 and produced 4.52Moz of gold (2009: 4.60Moz), generating \$5.3bn in sales revenue (2009: \$3.8bn). Capital expenditure in 2010 amounted to \$1,015m (2009: \$1,027m). As at 31 December 2010, AngloGold Ashanti's Ore Reserve totalled 71.2Moz.

Each operation's production ounces are detailed on the map displayed.

gold

producer

A truly

of

**global**

**Mali**

Morila

95,000oz

Sadiola

118,000oz

Yatela

60,000oz

**Guinea**

Siguiri

273,000oz

**Ghana**

Iduapriem

185,000oz

Obuasi

317,000oz

**DRC**

Mongbwalu

Kibali

**Namibia**

Navachab 86,000oz

**Tanzania**

Geita

357,000oz

**New Zealand**

Offshore areas

**Australia**

Sunrise Dam

396,000oz

Tropicana

**South Africa**

**Vaal River**

Great Noligwa

132,000oz

Kopanang

305,000oz

Moab Khotsong

292,000oz

Tau Lekoa

(1)

63,000oz

Surface operations

179,000oz

**West Wits**

Mponeng

532,000oz

Savuka

22,000oz

TauTona

259,000oz

(1)

*Sold effective 1 August 2010*



**South Africa**  
Offshore areas  
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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Group overview**

Mineral Resources and Ore Reserves 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 Resources are inclusive of the Ore Reserve component unless otherwise stated.

**Mineral Resource**

When the 2009 Mineral Resource is restated to exclude the sale of Tau Lekoa (6.2Moz), the Mineral Resource is reduced from 226.7Moz to 220.5Moz. The total Mineral Resource remained steady, dropping slightly from 220.5Moz in 2009 to 220.0Moz in December 2010. A year-on-year increase of 5.8Moz occurred before the subtraction of depletion and a decrease of 0.5Moz after the subtraction of depletion. It should be noted that changes in economic assumptions from 2009 to 2010 resulted in the Mineral Resource increasing by 3.5Moz whilst exploration and modelling resulted in an increase of 0.7Moz. The remaining increase of 1.6Moz resulted from various other factors. Depletions from the Mineral Resource for 2009 totalled 6.3Moz. The Mineral Resource has been estimated at a gold price of US\$1,100/oz (2009: US\$1,025/oz).

Mineral Resource

Moz

Mineral Resource as at 31 December 2009

226.7

Sale of Tau Lekoa

-6.2

Restated 2009 Mineral Resource

220.5

Reductions

Great Noligwa

Due to economics and depletion

-2.4

TauTona

Transfers to Mponeng

-1.3

Siguiiri

Revision to modelling procedures and increased costs

-1.0

Other

Total of non-significant changes

-3.6

Additions

Vaal River Surface

An economic study demonstrated that these tailings can

3.0

West Wits Surface

be economically reworked to recover uranium

1.3

Other

Total non-significant changes

3.5

Mineral Resource as at 31 December 2010

220.0

\*

*Rounding of numbers may result in computational discrepancies*

Group overview

Mineral Resources and Ore Reserves

**growth**

underpin

{

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**5**

Ore Reserve

Moz

Ore Reserve as at 31 December 2009

71.4

Sale of Tau Lekoa

-0.8

Restated 2009 Ore Reserve

70.6

Reductions

Geita

Depletions and model changes

-0.9

Obuasi

Depletions and refinements to Ore Reserve estimation

-0.7

Siguiri

Remodelling in accordance with reconciliation and depletion

-0.7

TauTona

Depletion and transfers to Mponeng, minor model changes

-0.7

Other

Total non-significant changes

-1.2

Additions

Cripple Creek & Victor

MLE2 project study incorporated

1.4

Mponeng

Successful conversion drilling and minor transfers from TauTona and Savuka

(1)

1.2

Sadiola

Additions from the Deep Sulphide project

0.8

Other

Total non-significant changes

1.3

Ore Reserve as at 31 December 2010

71.2

\*

*Rounding of numbers may result in computational discrepancies*

(1)

*Some of the Ore Reserves previously reflected against TauTona have now been transferred to Mponeng to facilitate the latter's mine plan*

**Ore Reserve**

When the 2009 Ore Reserve is restated to exclude Tau Lekoa (0.8Moz), the 2009 Ore Reserve is reduced from 71.4Moz to 70.6Moz.

Using the restated figure, the AngloGold Ashanti Ore Reserve increased from 70.6Moz in 2009 to 71.2Moz in December 2010.

A year-on-year increase of 6.2Moz occurred before the subtraction of 5.6Moz for depletion, resulting in an increase of 0.6Moz after

the subtraction of depletion. It should be noted that changes in the economic assumptions from 2009 to 2010 resulted in the

Ore Reserve increasing by 2.4Moz while exploration and modelling resulted in a further increase of 3.8Moz.

The Ore Reserve has been estimated using a gold price of US\$850/oz (2009: US\$800/oz).

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## **AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

### **Group overview**

Group overview

### **By-products**

Several by-products are recovered as a result of the processing of gold Ore Reserves. These include 21,591t of uranium oxide from the South African operations, 443,761t of sulphur from Brazil and 34.6Moz of silver from Argentina. Details of by-product Mineral Resources and Ore Reserves are provided later in this report.

### **External audit of Mineral Resource**

During the course of the year and as part of the rolling audit programme, AngloGold Ashanti's 2010 Mineral Resources at the following operations were submitted for external audit by the Australian-based company Quantitative Group (QG):

- Vaal Reef at Great Noligwa, Kopanang
  - Serra Grande and Moab Khotsong mines
  - Cripple Creek & Victor
  - Cerro Vanguardia
  - Mongbwalu
- AngloGold Ashanti's 2010 Ore Reserves at the following operations were submitted for external audit by a number of international consulting companies, namely:
- Geita AMC
  - Cripple Creek & Victor Pincock Allen and Holt
  - Obuasi AMC
  - Cerro Vanguardia Xstract
  - Siguirí AMC
  - Serra Grande Xstract
  - Sunrise Dam: Underground Optiro
  -

AGA Mineração-Cuiabá

Xstract

The company has been informed that the audits identified no material shortcomings in the process by which AngloGold Ashanti's Mineral Resources and Ore Reserves were evaluated. It is the company's intention to continue this process so that each of its operations will be audited, on average, every three years.

**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. These individuals are identified in the operational sections of this report. 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. 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, MAusIMM, assumes responsibility for the Mineral Resource and Ore Reserve processes for AngloGold Ashanti and is satisfied that the Competent Persons have fulfilled their responsibilities.

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**Mineral Resource by country (attributable)**

Tonnes

Grade

Contained gold

As at 31 December 2010

Category

million

g/t

Tonnes

Moz

South Africa

Measured

26.51

15.30

405.52

13.04

Indicated

(1)

753.04

2.76

2,075.87

66.74

Inferred

40.82

13.81

563.55

18.12

Total

820.38

3.71

3,044.94

97.90

Democratic Republic of

Measured

—

—

—

the Congo

Indicated

59.67

3.64

217.41

6.99

Inferred

30.54

3.27

99.94

3.21

Total



90.21  
3.52  
317.35  
10.20  
Ghana  
Measured  
77.12  
4.83  
372.49  
11.98  
Indicated  
83.38  
3.82  
318.84  
10.25  
Inferred  
105.26  
3.71  
390.99  
12.57  
Total  
265.76  
4.07  
1,082.33  
34.80  
Guinea  
Measured  
43.18  
0.65  
28.28  
0.91  
Indicated  
101.78  
0.77  
78.19  
2.51  
Inferred  
77.77  
0.85  
66.11  
2.13  
Total  
222.73  
0.77  
172.58  
5.55  
Mali  
Measured  
15.52  
1.36  
21.17

0.68  
 Indicated  
 54.86  
 1.79  
 98.07  
 3.15  
 Inferred  
 19.87  
 1.66  
 32.98  
 1.06  
 Total  
 90.24  
 1.69  
 152.22  
 4.89  
 Namibia  
 Measured  
 23.30  
 0.86  
 20.09  
 0.65  
 Indicated  
 72.57  
 1.28  
 92.78  
 2.98  
 Inferred  
 23.33  
 1.13  
 26.41  
 0.85  
 Total  
 119.20  
 1.17  
 139.28  
 4.48  
 Tanzania  
 Measured  
 –  
 –  
 –  
 Indicated  
 80.32  
 3.37  
 270.88  
 8.71  
 Inferred  
 21.95  
 3.62  
 79.57

2.56  
Total  
102.27  
3.43  
350.46  
11.27  
Australia  
Measured  
34.88  
1.74  
60.55  
1.95  
Indicated  
35.49  
2.85  
101.12  
3.25  
Inferred  
19.84  
2.90  
57.63  
1.85  
Total  
90.21  
2.43  
219.30  
7.05  
Argentina  
Measured  
11.12  
1.50  
16.63  
0.53  
Indicated  
20.86  
3.82  
79.69  
2.56  
Inferred  
10.20  
3.19  
32.55  
1.05  
Total  
42.18  
3.06  
128.87  
4.14  
Brazil  
Measured  
11.18

6.39	
71.43	
2.30	
Indicated	
15.60	
6.10	
95.14	
3.06	
Inferred	
30.80	
6.81	
209.73	
6.74	
Total	
57.57	
6.54	
376.31	
12.10	
Colombia	
Measured	
—	
—	—
—	
Indicated	
15.78	
0.93	
14.75	
0.47	
Inferred	
414.06	
0.98	
406.06	
13.06	
Total	
429.85	
0.98	
420.81	
13.53	
United States	
Measured	
283.04	
0.78	
221.76	
7.13	
Indicated	
216.53	
0.73	
157.18	
5.05	
Inferred	
79.61	

0.75  
59.66  
1.92  
Total  
579.18  
0.76  
438.60  
14.10  
Total  
Measured  
525.84  
2.32  
1,217.92  
39.16  
Indicated  
1,509.88  
2.38  
3,599.94  
115.74  
Inferred  
874.07  
2.32  
2,025.18  
65.11  
Total  
2,909.79  
2.35  
6,843.04  
220.01

(1)  
*The reduction in grade relative to the Measured and Inferred Mineral Resource is due to the inclusion of 505Mt at 0.28g/t at tailings and rock dump Mineral Resource.*

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Group overview**

Group overview

**Exclusive Mineral Resource by country (attributable)**

Tonnes

Grade

Contained gold

As at 31 December 2010

Category

million

g/t

Tonnes

Moz

South Africa

Measured

15.29

17.73

271.14

8.72

Indicated

563.41

1.65

927.58

29.82

Inferred

19.64

18.69

367.04

11.80

Total

598.34

2.62

1,565.75

50.34

Democratic Republic of

Measured

–

–

–

–

the Congo

Indicated

26.23

2.93

76.72

2.47

Inferred

30.54

3.27

99.94  
3.21  
Total  
56.77  
3.11  
176.66  
5.68  
Ghana  
Measured  
29.69  
6.96  
206.52  
6.64  
Indicated  
34.46  
2.45  
84.26  
2.71  
Inferred  
105.26  
3.71  
391.01  
12.57  
Total  
169.41  
4.02  
681.79  
21.92  
Guinea  
Measured  
4.46  
0.80  
3.59  
0.12  
Indicated  
34.07  
0.77  
26.22  
0.84  
Inferred  
77.77  
0.85  
66.11  
2.13  
Total  
116.30  
0.82  
95.91  
3.08  
Mali  
Measured

4.69  
 0.75  
 3.50  
 0.11  
 Indicated  
 18.27  
 1.69  
 30.79  
 0.99  
 Inferred  
 19.09  
 1.70  
 32.37  
 1.04  
 Total  
 42.05  
 1.59  
 66.66  
 2.14  
 Namibia  
 Measured  
 9.03  
 0.58  
 5.24  
 0.17  
 Indicated  
 42.83  
 1.11  
 47.50  
 1.53  
 Inferred  
 23.33  
 1.13  
 26.41  
 0.85  
 Total  
 75.20  
 1.05  
 79.15  
 2.54  
 Tanzania  
 Measured  
 -  
 -  
 -  
 Indicated  
 41.62  
 2.93  
 121.83  
 3.92  
 Inferred



21.95  
3.62  
79.57  
2.56  
Total  
63.57  
3.17  
201.40  
6.48  
Australia  
Measured  
10.83  
0.93  
10.10  
0.32  
Indicated  
12.10  
2.92  
35.29  
1.13  
Inferred  
19.84  
2.90  
57.63  
1.85  
Total  
42.77  
2.41  
103.02  
3.31  
Argentina  
Measured  
1.36  
3.61  
4.91  
0.16  
Indicated  
16.70  
2.20  
36.72  
1.18  
Inferred  
9.95  
2.97  
29.56  
0.95  
Total  
28.01  
2.54  
71.18  
2.29

Brazil  
 Measured  
 6.37  
 6.15  
 39.19  
 1.26

Indicated  
 8.35  
 6.10  
 50.93  
 1.64

Inferred  
 28.08  
 6.78  
 190.31

6.12  
 Total  
 42.81

6.55  
 280.44  
 9.02

Colombia  
 Measured

—  
 — —  
 —

Indicated  
 15.78  
 0.93  
 14.75  
 0.47

Inferred  
 414.06  
 0.98  
 406.06  
 13.06

Total  
 429.85  
 0.98  
 420.81  
 13.53

United States  
 Measured

135.85  
 0.75  
 102.38  
 3.29

Indicated  
 137.77  
 0.71  
 98.42

3.16  
Inferred  
69.52  
0.77  
53.85  
1.73  
Total  
343.14  
0.74  
254.66  
8.19  
Total  
Measured  
217.57  
2.97  
646.57  
20.79  
Indicated  
951.59  
1.63  
1,551.01  
49.87  
Inferred  
839.05  
2.15  
1,799.86  
57.87  
Total  
2,008.21  
1.99  
3,997.44  
128.52

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**Ore Reserve by country (attributable)**

Tonnes

Grade

Contained gold

As at 31 December 2010

Category

million

g/t

Tonnes

Moz

South Africa

Proved

12.03

8.24

99.07

3.19

Probable

(1)

191.99

4.41

845.74

27.19

Total

204.02

4.63

944.81

30.38

Democratic Republic of

Proved

—

—

—

—

the Congo

Probable

33.44

4.21

140.69

4.52

Total

33.44

4.21

140.69

4.52

Ghana

Proved

44.01

3.13

137.85

4.43  
Probable  
49.30  
4.41  
217.28  
6.99  
Total  
93.31  
3.81  
355.13  
11.42  
Guinea  
Proved  
39.05  
0.62  
24.38  
0.78  
Probable  
67.44  
0.74  
49.71  
1.60  
Total  
106.49  
0.70  
74.08  
2.38  
Mali  
Proved  
4.96  
2.23  
11.03  
0.35  
Probable  
39.18  
1.78  
69.82  
2.24  
Total  
44.14  
1.83  
80.86  
2.60  
Namibia  
Proved  
14.27  
1.02  
14.49  
0.47  
Probable  
29.74

1.45	
42.99	
1.38	
Total	
44.01	
1.31	
57.48	
1.85	
Tanzania	
Proved	
—	
—	—
—	
Probable	
40.92	
3.20	
131.06	
4.21	
Total	
40.92	
3.20	
131.06	
4.21	
Australia	
Proved	
24.05	
2.10	
50.45	
1.62	
Probable	
23.39	
2.81	
65.83	
2.12	
Total	
47.44	
2.45	
116.28	
3.74	
Argentina	
Proved	
9.54	
1.22	
11.63	
0.37	
Probable	
8.57	
5.32	
45.62	
1.47	
Total	

18.10  
3.16  
57.25  
1.84  
Brazil  
Proved  
6.91  
5.80  
40.06  
1.29  
Probable  
7.40  
5.26  
38.88  
1.25  
Total  
14.30  
5.52  
78.94  
2.54  
United States  
Proved  
147.19  
0.81  
119.37  
3.84  
Probable  
78.76  
0.75  
58.76  
1.89  
Total  
225.95  
0.79  
178.13  
5.73  
Total  
Proved  
302.00  
1.68  
508.32  
16.34  
Probable  
570.12  
2.99  
1,706.39  
54.86  
Total  
872.12  
2.54  
2,214.71

71.20

(1)

*The reduction in grade relative to the Proved Ore Reserve is due to the inclusion of 111Mt at 0.49g/t at tailings and rock dump Ore Reserve.*



**P**

**10**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Group overview**

Group overview

**Reconciliation of Mineral Resource**

as at 31 December 2010

Au Content (attributable) Moz

Previous

Gold

Metho-

Current

year

Depletion

price

Cost

Exploration

dology

Other

year

South Africa Region

Great Noligwa

6.941

-0.195

0.270

-2.471

-0.058

0.076

-0.055

4.508

Kopanang

10.036

-0.564

0.032

-0.052

-0.382

–

0.057

9.128

Moab Khotsong

20.452

-0.381

0.041

-0.086

0.287

–

–

20.312

Tau Lekoa

6.195

-0.083

-  
-  
-  
-  
-6.112  
-  
Vaal River Surface  
1.860  
-0.185  
-  
3.135  
-0.010  
0.085  
-  
4.886  
Mponeng  
49.828  
-0.697  
0.203  
-  
-1.435  
0.002  
1.648  
49.549  
Savuka  
3.843  
-0.044  
-  
-0.002  
-0.249  
-0.127  
-0.331  
3.090  
TauTona  
6.196  
-0.304  
-  
-0.100  
0.102  
-0.159  
-0.852  
4.883  
West Wits Surface  
0.195  
-0.007  
-  
1.342  
0.002  
0.010  
-  
1.543

Total  
 105.546  
 -2.46  
 0.546  
 1.766  
 -1.743  
 -0.113  
 -5.645  
 97.899  
 Continental Africa Region  
 Kibali  
 8.889  
 -0.576  
 0.740  
 -0.119  
 -0.171  
 -0.414  
 -0.048  
 8.299  
 Mongbwalu  
 2.098  
 -  
 -  
 -  
 -  
 -0.194  
 -  
 1.904  
 Iduapriem  
 4.601  
 -0.227  
 0.721  
 -0.322  
 -  
 0.500  
 -  
 5.273  
 Obuasi  
 29.525  
 -0.350  
 -  
 -  
 0.110  
 0.502  
 -0.262  
 29.525  
 Siguiri  
 6.588  
 -0.370  
 0.300  
 -0.643

0.035  
 -0.599  
 0.236  
 5.548  
 Morila  
 0.331  
 -0.098  
 0.010  
 -  
 -  
 0.001  
 -  
 0.244  
 Sadiola  
 3.755  
 -0.130  
 0.483  
 -  
 0.562  
 -0.201  
 0.002  
 4.472  
 Yatela  
 0.145  
 -0.071  
 0.039  
 -  
 0.055  
 0.004  
 0.006  
 0.178  
 Navachab  
 3.728  
 -0.132  
 0.154  
 -0.116  
 0.395  
 0.302  
 0.147  
 4.478  
 Geita  
 11.449  
 -0.425  
 0.535  
 -0.576  
 -  
 0.331  
 -0.047  
 11.267  
 Total  
 71.109

-2.379  
2.982  
-1.776  
0.986  
0.232  
0.034  
71.188  
Australasia Region  
Sunrise Dam  
3.618  
-0.360  
0.044  
-0.006  
0.016  
0.029  
0.015  
3.356  
Tropicana  
3.510  
-  
-  
-0.687  
1.007  
-0.135  
-  
3.695  
Total  
7.128  
-0.36  
0.044  
-0.693  
1.023  
-0.106  
0.015  
7.051  
Americas Region  
Cerro Vanguardia  
3.884  
-0.188  
-  
-  
0.485  
-0.038  
-  
4.143  
AGA Mineração  
10.884  
-0.405  
-0.054  
-  
0.603

-0.031  
0.167  
11.165  
Serra Grande  
1.029  
-0.078  
-  
-  
-  
-0.018  
-  
0.933  
Gramalote  
1.086  
-  
-  
-  
-  
-  
-  
1.086  
La Colosa  
12.317  
-  
-  
-  
-  
0.126  
12.443  
CC&V  
13.738  
-0.483  
0.721  
-0.043  
0.337  
-0.950  
0.781  
14.101  
Total  
42.938  
-1.154  
0.667  
-0.043  
1.425  
-1.037  
1.074  
43.871  
Grand total  
226.721  
-6.353

4.239  
-0.746  
1.691  
-1.024  
-4.522  
220.009

**P**

**11**

Au Content (attributable) Moz

Net

diff

%

Comments

-2.43

-35.05

Decrease due to footprint reduction; movement from the Mineral Resource to Inventory and change in the Mineral Resource cut-off.

-0.90

-9.04

Reclassification of the Mineral Resource; changes in structure; re-evaluation of local and macro estimates; inter-shaft transfers and movement to Inventory.

-0.14

-0.68

The changes are all data driven. New data and changes of estimation parameters resulted in lower values.

-6.19

-

Tau Lekoa was sold to Simmer and Jack Ltd; effective on 1st August 2010.

3.02

162.24

Changes were mainly due to depletions; reinstatement of 3.1Moz from Inventory (due to new extraction method for uranium) and aerial survey updates, additions and grade adjustments.

-0.27

-0.55

Model change on Elsburgs resulted in lowered values; upgrade in WUDLS; upgrade of CLR below 120 to Indicated Mineral Resource; gain due to CLR boundary change between Mponeng, TauTona and Savuka mines.

-0.75

-19.52

Changes mainly due to lower values; depletions; reconciliation adjustment; Mponeng transfers and transfers to Inventory.

-1.31

-21.14

The changes were mainly due to depletions; value changes; geological structure changes; intershaft transfers and inventory changes.

1.34

691.28

Changes were mainly due to depletions; reinstatement of 1.3Moz from Inventory (due to new extraction method for uranium) and aerial survey updates, additions and grade adjustments.

-7.64

-7.24

-0.58

-6.63

The decrease is due to corrections from old underground workings whilst a change in open pit wireframing methodology caused a loss of Mineral Resource at the KCD pit.

-0.19

-9.24

Infill drilling allowed for an upgrade of confidence.

0.67



14.56

The increase in gold price caused the Mineral Resource open pit shell to expand.

–

–

Decrease due to depletion was offset by exploration and reclassification of Mineral Resource categories.

-1.04

-15.79

Mineral Resource was factored to reflect a change in selectivity and the observed reconciliation.

-0.08

-26.28

Mining activity is restricted to processing of stockpiles.

0.71

19.09

Increase is mainly due to successful exploration programmes in 2010 and the higher gold price used in the optimisations.

0.03

22.76

Increase is mainly due to exploration and the higher gold price.

0.74

20.12

Exploration drilling confirmed the downplunge extension to the vein swarms in the Main and North pits.

-0.18

-1.58

The increase in gold price caused the Mineral Resource open pit shells to expand.

0.07

0.11

-0.26

-7.24

Changes largely due to depletion, with a small increase in the underground Mineral Resource due to model change.

Reduction at Golden Delicious due to reporting within an optimisation shell for the first time.

0.18

5.27

Decrease in open pit due to the use of contract mining costs rather than owner mining costs, and reporting Havana inside pit design rather than shell. Decreases were offset by discovery of Boston Shaker and extensions to Havana Deeps.

-0.07

-1.08

0.25

6.66

Change due to positive exploration results in 2010 (0.45Moz of gold and 10.4Moz of silver from vein resources).

0.28

2.58

Cuiabá +230,000oz (Serrotinho); Raposos -176,000oz (exclusion of low grade at N10); Morro da Glória +80,000oz (new orebodies) and Lamego +34,000oz (Carruagem).

-0.09

-9.32

Exploration during 2010 resulted in Mineral Resource conversion but no extensions or additions to the current orebodies.

–

–

No additional work was done since the previous year.

0.12

1.02

No additional boreholes have been drilled since the previous year, but gains are due to an additional 1g/t Au envelope and the higher gold price that was used.

0.36

2.64

Additions from exploration and a higher gold price.

0.93

2.17

-6.71

-2.96

**P**

**12**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Group overview**

Group overview

**Reconciliation of Ore Reserve**

as at 31 December 2010

Au Content (attributable) Moz

Previous

Model

Change in

New ounces

Scope

Current

year

Depletion

Other

change

economics from projects

change

year

South Africa Region

Great Noligwa

1.601

-0.104

0.144

0.047

-0.388

–

0.114

1.415

Kopanang

3.350

-0.564

–

-0.167

–

–

0.487

3.106

Moab Khotsong

7.137

-0.304

-0.008

0.637

–

–

0.028

7.490

Tau Lekoa Reserve

0.798

-0.083

-0.714

-

-

-

-

-

Vaal River Surface

1.737

-0.184

-0.012

0.012

-

-

-0.014

1.539

Mponeng

12.716

-0.538

-0.337

0.063

-

-

2.000

13.904

Savuka

0.688

-0.022

-

-

-

-

-

0.666

TauTona

2.732

-0.331

-0.216

-0.160

-

-

0.030

2.056

West Wits Surface

0.183

-0.007

0.012

0.010

-

-

0.003

0.200  
 Total  
 30.942  
 -2.137  
 -1.131  
 0.442  
 -0.388  
 0  
 2.648  
 30.376  
 Continental Africa Region  
 Kibali Reserve  
 4.136  
 -  
 0.352  
 -0.141  
 0.277  
 -  
 -0.100  
 4.523  
 Iduapriem  
 2.397  
 -0.248  
 0.034  
 0.030  
 -0.031  
 -  
 0.312  
 2.494  
 Obuasi  
 9.648  
 -0.576  
 -  
 0.312  
 -  
 -  
 -0.461  
 8.923  
 Siguiri  
 3.073  
 -0.285  
 -0.015  
 -0.342  
 0.008  
 -  
 -0.057  
 2.382  
 Morila  
 0.321  
 -0.098  
 0.001

-  
-  
-  
-  
0.224  
Sadiola  
1.457  
-0.208  
0.123  
-  
-0.010  
0.906  
0.030  
2.298  
Yatela  
0.044  
-0.071  
0.105  
-  
-  
-  
-  
0.078  
Navachab  
1.625  
-0.118  
-  
-0.033  
-  
-  
0.374  
1.848  
Geita  
5.066  
-0.456  
-0.043  
-0.260  
-0.031  
-  
-0.062  
4.214  
Total  
27.767  
-2.06  
0.557  
-0.434  
0.213  
0.906  
0.036  
26.984  
Australasia Region

Sunrise Dam  
 1.728  
 -0.391  
 0.059  
 0.114  
 -  
 -  
 -0.133  
 1.377  
 Tropicana  
 2.311  
 -  
 -0.012  
 0.043  
 0.051  
 -  
 -0.031  
 2.361  
 Total  
 4.039  
 -0.391  
 0.047  
 0.157  
 0.051  
 0  
 -0.164  
 3.738  
 Americas Region  
 Cerro Vanguardia  
 1.879  
 -0.191  
 0.013  
 0.106  
 -  
 0.001  
 0.033  
 1.841  
 AGA Mineração  
 2.179  
 -0.363  
 0.264  
 0.094  
 -0.019  
 -  
 -0.008  
 2.146  
 Serra Grande  
 0.348  
 -0.079  
 -0.012  
 0.137

-0.002  
-  
-  
0.392  
CC&V  
4.291  
-0.483  
-  
0.050  
-  
1.869  
-  
5.727  
Total  
8.697  
-1.116  
0.265  
0.387  
-0.021  
1.87  
0.025  
10.106  
Grand total  
71.445  
-5.704  
-0.262  
0.552  
-0.145  
2.776  
2.545  
71.204



**P**

**13**

Au Content (attributable) Moz

Net  
diff

%

Comments

-0.18

-11.62

Reduction as a result of further restructuring of the underground mineable footprint.

-0.24

-7.28

Decrease due to depletions and model changes as a result of new information.

0.35

4.94

Increase due to model changes as a result of new information.

-0.79

-

Tau Lekoa was sold to Simmer and Jack Ltd; effective on 1st August 2010.

-0.19

-11.40

Decrease due to normal depletions.

1.18

9.34

Increase mainly due to inclusion of TauTona ground below 120 level and Savuka areas; upgrade of the Mineral Resource.

-0.02

-3.19

The remainder of the Savuka Ore Reserves are to be mined by Mponeng.

-0.67

-24.74

Decrease due to depletion and transfer of ground to Mponeng.

0.01

9.28

Increase due to additions to the Mponeng marginal ore dump.

-0.56

-1.82

0.38

9.35

The increase is due to an improved Mineral Resource to Ore Reserve ratio due to a re-design of the underground mining layout by SRK Consulting.

0.09

4.04

Increase due to updates made to the higher-grade Ajopa geological model and well as the geological models for Blocks 7 and 8 South.

-0.72

-7.51

The overall decrease is due to improved integrity of information and refinement of the processes that were used to generate the 2010 Ore Reserve.

-0.69

-22.49

The decrease is due to depletions, geological model changes having a negative impact on grade and significantly higher operating costs.

-0.09

-30.22

The decrease in Ore Reserve is almost entirely due to depletion of the stockpile inventory.

0.84

57.72

Increase due to new Mineral Resource models, economic changes, additions from the Deep Sulphide project and the upgrading of Tambali.

0.03

77.27

Increase is due to favourable economic changes that have more than offset the annual depletion.

0.22

13.72

Increase due to a new Mineral Resource model providing additional resources in the Main and North pits; also due to the outcome of the first phase of an optimisation project which has resulted in a larger pit shell and an increased plant feed schedule.

-0.85

-16.82

Decrease is due to depletion as well as geological model changes which negatively affected the grades within the Nyankanga and Geita Hill pit shells.

-0.78

-2.81

-0.35

-20.31

Change in mine economics has modified the planned mining method in GQ and Astro from bulk to selective, reducing recoverable ounces by selectivity and sterilisation.

0.05

2.16

Gains due to Mineral Resource model update and the BFS economic assumptions, resulting in cut-off grade changes. These gains were offset by design changes and a small amount of material being removed from the schedule due to negative cash-flow.

-0.30

-7.45

-0.03

-2.02

No significant changes. Depletion of 0.19Moz was compensated for by 0.11Moz increase due to model change and 0.03Moz of scope change (ounces that were planned for open pit but are now allocated to underground).

-0.03

-1.51

No significant changes. Depletion of 0.36Moz was compensated by 0.26Moz increase due to additional Ore Reserves from Cuiabá.

0.04

12.64

Change due to model changes of 0.14Moz. The new Ore Reserves are from Palmeiras and Pequizão.

1.43

33.47

Added Ore Reserves in 2010 due to the MLE 2 project.

1.40

16.20

-0.24

-0.33

**P**

**14**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa**

South Africa

Ensuring a

**future**

profitable

**West Wits operations**

Mponeng

Savuka

TauTona

West Wits Surface operations

**South Africa**

**Vaal River operations**

Great Noligwa

Kopanang

Moab Khotsong

Vaal River Surface operations

for deep-level mining

**P**

**15**

**Regional overview**

AngloGold Ashanti's South Africa operations comprise six deep-level mines and the surface operations. They are:

- The Vaal River operations – Great Noligwa, Kopanang, Moab Khotsong and the surface processing operation. The fourth deep-level mine in this region, Tau Lekoa, was sold during the course of the year.

- The West Wits operations – Mponeng, Savuka and TauTona and a surface processing operation. Together, these operations produced 1.78Moz of gold in 2010, or 39% of group production, and 1.5Mlbs of uranium as a by-product.

The Mineral Resource in South Africa, attributable to AngloGold Ashanti, totalled 97.90Moz at year-end, including an attributable Ore Reserve of 30.38Moz.

All Mineral Resources and Ore Reserves listed are attributable unless otherwise stated.

**Mineral Resource by region**

as at 31 December 2010

Tonnes

Grade

Contained gold

Category

million

g/t

Tonnes

Moz

South Africa Region

Measured

26.51

15.30

405.52

13.04

Indicated

(1)

753.04

2.76

2,075.87

66.74

Inferred

40.82

13.81

563.55

18.12

Total

820.38

3.71

3,044.94

97.90

**Ore Reserve by region**

as at 31 December 2010

Tonnes

Grade  
Contained gold  
Category  
million  
g/t  
Tonnes  
Moz  
South Africa Region

Proved

12.03

8.24

99.07

3.19

Probable

(2)

191.99

4.41

845.74

27.19

Total

204.02

4.63

944.81

30.38

(1)

*The reduction in grade relative to the Measured and Inferred Mineral Resource is due to the inclusion of 505Mt at 0.28g/t at tailings and rock dump Mineral Resource.*

(2)

*The reduction in grade relative to the Proved Ore Reserve is due to the inclusion of 111Mt at 0.49g/t at tailings and rock dump Ore Reserve.*

**P**

**16**

## **AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

### **South Africa**

#### **Country overview**

The South African operations comprise six underground mines located in two geographical regions on the Witwatersrand Basin called the Vaal River and West Wits operations.

The primary reefs mined by the Vaal River operations are the Vaal Reef (VR) and 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 are the Carbon Leader Reef (CLR) and the VCR.

All six operations are 100% owned by AngloGold Ashanti. In addition, the Vaal River Surface and West Wits Surface operations mine the waste rock dumps and tailings dams which result from the mining and processing of the primary and secondary reef horizons.

#### **Mineral Resource estimation**

A multi-disciplinary approach is adapted to Mineral Resource estimation whereby inputs are required from the geoscience, survey and mine planning departments. A computerised system called the Mineral Resource Inventory System (MRIS) integrates all the input information to produce the final Mineral Resource per operation. Mineral Resource estimates are computed from a composite grid of value estimates, comprising various block sizes. The macro block sizes vary from 210m x 210m to 420m x 420m with micro blocks of 30m x 30m.

Compound lognormal macro co-kriging estimation techniques are used to produce estimates for the larger block sizes. This technique uses the Bayesian approach whereby the assayed (observed) data in the mined-out areas are used to infer the population characteristics of the area ahead of current mining. The geological model forms the basis for this estimation and all surface borehole information from the peripheral areas of the mine lease play a crucial role in determining the geological model boundaries. Simple

kriging is used for the 30m block sizes and these estimates are constrained by the weight of the mean.

The Mineral Resource is initially reported as inclusive of the Ore Reserve as they form the basis for the Ore Reserve conversion

process. Mineral Resource cut-offs are computed by operation, for each reef horizon. These cut-offs incorporate a profit margin that is relevant to the business plan. Mineral Resource grade tonnage curves are produced for the individual operations, which show the potential of the orebody at different cut-offs. These curves are produced for dimensions equivalent to a practical mining unit for underground operations.

#### **Ore Reserve estimation**

All mine designs are undertaken using the Cadmine ® software package and include the delineation of mining or stoping areas for each mining level and section, usually leading from an extension to the existing mining sequence, and the definition of the necessary

development layouts. The in situ Mineral Resource is scheduled monthly for the full Life-Of-Mine (LOM) plan. The value estimates for these schedules are derived directly from the MRIS.

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 mill width and the stoping width as well as the MCF.

South Africa



**P**

**17**

**Development sampling results – January to December 2010**

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

ore reserves.

Statistics are shown

Advanced

Sampled

Sampled

in metric units

metres

Sampled Ave. channel

gold

uranium

South Africa

(total)

metres

width (cm)

Ave. g/t

Ave. cm.g/t

Ave. kg/t Ave. cm.kg/t

Vaal River

Great Noligwa

Vaal Reef

2,432

20

75.0

49.72

3,729

2.43

182.01

Kopanang

Vaal Reef

24,724

3,132

23.3

55.06

1,283

3.00

70.82

Moab Khotsong

Vaal Reef

20,939

1,806

119.9

27.41

3,287

1.19

142.75

West Wits

Mponeng  
Ventersdorp Contact Reef  
16,636  
1,092  
58.4  
32.02  
1,870  
—  
—  
Savuka  
Carbon Leader Reef  
315  
58  
55.8  
60.29  
3,364  
0.67  
37.22  
TauTona  
Ventersdorp Contact Reef  
362  
70  
173.3  
9.26  
1,605  
0.02  
3.91  
Carbon Leader Reef  
11,584  
560  
28.5  
98.63  
2,811  
0.89  
26.11

**P**  
**18**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Great Noligwa**

**Location**

Great Noligwa is located about 15km south-east of the town of Orkney, in the southern part of the Klerksdorp Goldfield. The Great

Noligwa mining lease area is about 49km<sup>2</sup> and is constrained to the north by Aurora gold mine, to the east by Buffelsfontein gold

mine, to the south by Moab Khotsong gold mine and to the west by Kopanang gold mine.

The economic horizons are exploited between 1,500 and 2,600m below surface through a mining method that gains access to the

gold bearing reefs through footwall 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 VR is the principal economic horizon at Great Noligwa and the 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 on average 260 to 270m below the C Reef, but still in the top third of the

Johannesburg Subgroup.

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 may be sporadically

preserved below the A facies. High gold values in the VR are often associated with high uranium values as well as the presence of

carbon at the base of the VR. Uranium is a very important by-product of Great Noligwa.

The C Reef has been mined on a limited scale in the central part of Great Noligwa, where the high-grade north-south orientated

channel containing two economic horizons has been exposed. To the east and the west of the 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 carbon seam at the base of the conglomerate. To the north the C Reef sub-crops against

the Gold Estates Conglomerates and in the extreme south of the mine the C Reef has been eliminated by deep Kimberley Erosion

Channel and the Jersey fault.

**Projects**

Drilling is ongoing in 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 geozone within the Zuiping A fault loss area. During

the year a total of 15 boreholes were drilled (1,041m) from which six reef intersections were achieved. A total of 1,620m of diamond

drilling is planned for 2011 to increase the geological confidence in the proposed mining area and to test for upside potential in the north-east of the project area.

South Africa

**Great Noligwa**

**P**

**19**

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Great Noligwa

Category

million

g/t

Tonnes

Moz

Crystalkop Reef

Measured

1.90

7.69

14.60

0.47

Indicated

2.72                    10.28

27.96                    0.90

Inferred    0.60

10.15

6.07

0.20

Total    5.22

9.32

48.64

1.56

Vaal Reef

Measured

4.54

15.09

68.54

2.20

Indicated    1.28

15.00

19.23

0.62

Inferred    0.30

12.66

3.80

0.12

Total    6.12

14.95

91.57

2.94

Great Noligwa

Total

11.34

12.36

140.20

4.51

Reef intersection

No reef intersection

Planned holes for 2011

100m

**Legend**

160m (throw on fault)

160m

*Reef blocks in Zuiping "A" fault*

**P**

**20**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Great Noligwa**

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Great Noligwa

Measured

5 x 5

–

–

–

Chip sampling

Indicated

100 x 100

–

–

–

Diamond drilling

Inferred

200 x 200

–

–

–

Diamond drilling

Grade control –

–

–

–

See Measured category

**Exclusive Mineral Resource**

The Exclusive Mineral Resource for the Measured category of VR is 1.2Mt at a grade of 20.86g/t. The Indicated Mineral Resource is

0.4Mt at a grade of 17.41g/t and the Inferred Mineral Resource is 0.15Mt at a grade of 14.17g/t.

The Exclusive Mineral Resource for the Measured category of the C Reef is 1.2Mt at a grade of 7.11g/t. The Indicated Mineral

Resource is 1.7Mt at a grade of 10.78 g/t. No Inferred category was classified in the Exclusive Mineral Resource.

Both the VR and C Reef Exclusive Mineral Resource are from areas located beyond the window of opportunity and beyond mine

infrastructure. 62% of the total Exclusive Mineral Resource tonnes are from the C Reef horizon and 38% from the VR horizon.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Great Noligwa

Category

million

g/t

Tonnes

Moz

Measured 2.42

14.08

34.00

1.09

Indicated 2.20

12.13

26.69

0.86

Inferred 0.15

14.17

2.13

0.07

Great Noligwa

Total

4.77

13.18

62.82

2.02

South Africa

**Great Noligwa**

Great Noligwa:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

7.5

7.0

6.5

6.0

5.5

5.0

4.5

4.0

Change

6.94

2009

-0.20

Depletion

0.27

Gold

price

-0.06



Explo-  
 ration  
 0.08  
 Metho-  
 dology  
 4.51  
 2010  
 -2.47  
 Cost  
 -0.06  
 Other  
 Great Noligwa:  
 Ore Reserve reconciliation  
 2009 vs 2010  
 Ounces (millions)  
 1.60  
 1.55  
 1.50  
 1.45  
 1.40  
 1.35  
 1.30  
 1.25  
 1.20  
 1.15  
 Change  
 1.60  
 2009  
 -0.10  
 Depletion  
 0.05  
 Model  
 change  
 0.00  
 New  
 ounces  
 from  
 projects  
 0.11  
 Scope  
 change  
 1.42  
 2010  
 -0.39  
 Change in  
 Economics  
 0.14  
 Other

**P**

**21**

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Great Noligwa

Category

million

g/t

Tonnes

Moz

Crystalkop Reef

Proved

0.71

5.48

3.88

0.12

Probable

0.96

5.93

5.72

0.18

Total

1.67

5.74

9.60

0.31

Vaal Reef

Proved

3.32

8.19

27.18

0.87

Probable

0.83

8.66

7.23

0.23

Total

4.15

8.29

34.41

1.11

Great Noligwa

Total

5.83

7.55

44.01

1.41

**Inferred Mineral Resource in business plan**

Some Inferred Mineral Resource was included in the optimisation process. The Inferred Mineral Resource for the VR is estimated at

0.3Mt at 12.66g/t. For the C Reef it is estimated at 0.6Mt at a grade of 10.15g/t. The Mineral Resource is scattered throughout the mine in the form of pillars left behind by previous mining extraction as well as pillars within the major fault loss zones.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Great Noligwa

million

g/t

Tonnes

Moz

Comments

Vaal Reef

0.15

7.05

1.06

0.03

Included in business plan but not published

as Ore Reserve

Total

0.15

7.05

1.06

0.03

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

Cut-off

Stoping

Gold

change

value

value

width

Dilution

Great Noligwa

price

rate

g/t Au

cmg/t Au

(cm)

(%)

MCF%

MetRF%

Mine

850

8.71

11.13

1,800

161.7

52      63.20      95.99

South Africa

**Great Noligwa**

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Great Noligwa**

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Geo Steyn

SACNASP

400312/05

10 years

Ore Reserve

Andre Kruger

PLATO

PMS0114

33 years

Great Noligwa

– underground (metric)

Tonnes above cut-off

f (millions)

0

20

Average grade

above cut-off (g/t)

15

10

5

12

10

8

6

4

2

0

30

28

26

24

22

20

18

16

14

12

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

**P**

**23**

**Location**

Kopanang is located in the Orange Free State province, approximately 170km south-west of Johannesburg and 10km south-east of the

town of Orkney. The mine has been in production since 1984 and was originally known as Vaal Reef 9 Shaft.

Kopanang's current mine

lease incorporates an area of 35km<sup>2</sup>, directly west of neighbouring Great Nologwa mine and bound to the south by the Jersey Fault.

Dolomites of the Transvaal Supergroup outcrop on surface, resulting in a very subdued topography with very few rock exposures.

**Geology**

Gold and uranium-bearing conglomerates of the Central Rand Group are mined at Kopanang, the most important of which is the VR.

Gold is the primary commodity at Kopanang, with uranium oxide being extracted as a by-product. The economic VR and C Reef

conglomerates are exposed via a twin-shaft system that reaches a depth of 2,340m. The VR is exploited at depths ranging from

1,300 to 2,600m below surface. Kopanang almost exclusively mines the VR, although minor amounts of gold are also extracted from

the C Reef, which is stratigraphically about 250m above the VR. The VR and C Reef generally dip towards the south-east at between

10° and 30°.

The VR is a medium to high-grade reef consisting of a basal conglomerate called the Stilfontein Reef, occasionally overlying remnant

Grootdraai conglomerate units, with an overlying Upper Vaal unit. Current terminology separates the reef into A, B and C facies, where

the C facies is the basal Stilfontein and/or Grootdraai conglomerates.

The overlying Upper Vaal or A facies is split into three distinct sub facies; the VR A Bottom, Middle and Top, which consist of a series

of small pebble conglomerates and grits containing very little gold. Further to the east at Great Nologwa, the A facies becomes more

robust, is better developed and displays high gold values.

The B facies is simply a fine-grained, cross bedded, light grey, black speckled orthoquartzite that separates the A and C facies.

The basal C facies conglomerate of the VR is the main gold carrier on Kopanang. It varies very little in thickness, with 7 to 10cm being

typical. The conglomerate comprises mostly quartz (92-98%) and chert (2-8%), with occasional porphyry clasts (<2%). The matrix is

generally very pyritic and the base is non-channelised, often containing a well developed carbon seam.

The C Reef contains two economic conglomerates, although the lower-most conglomerate is only preserved as small remnants. Gold

concentrations are typically associated with a basal carbon seam. The C Reef sub-crops in the north against the Gold Estates

member of the Kimberley Formation. To the south of this unconformity, the reef can be eliminated by either the Kimberley erosion

channels or bedding parallel faulting.

South Africa

**Kopanang**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Kopanang**

South Africa

**Kopanang**

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

events. The complexity of the faulting at Kopanang became evident during initial surface diamond borehole drilling. Prior to 1970,

12 surface boreholes had been drilled on the farm Pretoriuskraal 53 and only five of these intersected the VR, the rest had been

faulted out. Approximately 20% of the ground in the mine lease area has been eliminated due to the presence of faulting.

At least nine structural events, of differing ages, are thought to have affected the reef at Kopanang. The interaction of the resultant

geological structures can be very complicated since many of these faults have been reactivated at latter stages, or been active over

long periods of time. The tectonic time frame ranges from late Archaean to Cretaceous and therefore involves some 2.7 billion years

of structural deformation.

**Exploration**

The exploration at Kopanang is focussed around target blocks that will be explored from underground drilling. The VR target blocks are

situated in the shaft fault area and the ground below 68 level. Additional to this ground, the western portion of the mine lease (Gencor

1E area) forms a potential mineable area and is being explored by a combination of exploration drilling and underground development.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Kopanang

Category

million

g/t

Tonnes

Moz

Crystalkop Reef

Measured

0.07

12.18

0.87

0.03

Indicated

0.41

12.13

5.00

0.16

Inferred

0.89

13.75



12.18  
 0.39  
 Total 1.37

13.18  
 18.06  
 0.58  
 Vaal Reef EDOM  
 Measured  
 0.18  
 11.66  
 2.06  
 0.07  
 Indicated 1.36

12.20  
 16.62  
 0.53  
 Inferred 0.15  
 9.31  
 1.41  
 0.05  
 Total 1.69

11.89  
 20.08  
 0.65  
 Vaal Reef Base  
 Measured  
 3.15  
 16.02  
 50.53  
 1.62

Indicated 16.79  
 10.97  
 184.13  
 5.92  
 Inferred 1.09  
 10.18  
 11.11  
 0.36  
 Total 21.03

11.68  
 245.77  
 7.90  
 Kopanang  
 Total  
 24.09  
 11.78  
 283.90  
 9.13

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

Type of drilling  
 Mine/ Spacing

Blast-  
Project  
Category  
m (- x -)  
Diamond  
RC  
hole Other  
Comments  
Kopanang  
Measured  
5 x 5  
-  
-  
-  
Chip sampling  
Indicated  
200 x 200  
-  
-  
-  
GBH drilling  
Inferred  
1,000 x 1,000  
-  
-  
-  
Surface boreholes  
Grade control -  
-  
-  
-  
See Measured category

**P**

**25**

**Exclusive Mineral Resource**

Approximately 47% of the Exclusive Mineral Resource is expected to be taken up in safety and remnant pillars, areas beyond the window of opportunity and areas beyond infrastructure.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Kopanang

Category

million

g/t

Tonnes

Moz

Measured

2.48

15.88

39.34

1.26

Indicated

8.60

9.32

80.17

2.58

Inferred

1.75

11.45

20.05

0.64

Kopanang

Total

12.83

10.87

139.56

4.49

**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Kopanang

Category

million

g/t

Tonnes

Moz

Measured

0.02

7.77

0.17

0.01

Indicated

0.25	
14.73	
3.68	
0.12	
Inferred	
0.26	
12.03	
3.15	
0.10	
Kopanang	
Total	0.53
13.13	
7.00	
0.23	
Kopanang:	
Mineral Resource reconciliation	
2009 vs 2010	
Ounces (millions)	
10.1	
10.0	
9.9	
9.8	
9.7	
9.6	
9.5	
9.4	
9.3	
9.2	
9.1	
9.0	
Change	
10.04	
2009	
-0.56	
Depletion	
0.03	
Gold	
price	
-0.38	
Explo-	
ration	
0.00	
Metho-	
dology	
9.13	
2010	
-0.05	
Cost	
0.06	
Other	
Kopanang:	

Ore Reserve reconciliation

2009 vs 2010

Ounces (millions)

3.4

3.3

3.2

3.1

3.0

2.9

2.8

2.7

2.6

Change

3.35

2009

-0.57

Depletion

-0.17

Model

change

0.00

New

ounces

from

projects

0.49

Scope

change

3.11

2010

0.00

Change in

Economics

0.00

Other

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Kopanang**

South Africa

**Kopanang**

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Kopanang

Category

million

g/t

Tonnes

Moz

Crystalkop Reef

Proved

0.02

5.66

0.09

–

Probable 0.33

6.98

2.29

0.07

Total 0.34

6.92

2.38

0.08

Vaal Reef EDOM

Proved

0.07

6.32

0.43

0.01

Probable 1.51

5.39

8.14

0.26

Total 1.58

5.43

8.57

0.28

Vaal Reef Base

Proved

1.16

8.00

9.24

0.30

Probable	11.51
6.64	
76.41	
2.46	
Total	12.67

6.76	
85.65	
2.75	
Kopanang	

Total	
14.59	
6.62	
96.61	
3.11	

**Inferred Mineral Resource in business plan**

Some Inferred Mineral Resources were included in the business plan during the optimisation process. The Inferred Mineral Resource

for VR is estimated at 1.3Mt at 11.40g/t and the C Reef is estimated at 0.9Mt at 14.20g/t. The Inferred Mineral Resource consist

mainly of the outer perimeters of the mining lease area, plus pillars left behind by previous mining extraction as well as pillars within

major fault loss zones. The table below indicates the Inferred Mineral Resource included in the business plan but not published as

part of the Ore Reserve.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Kopanang

million

g/t

Tonnes

Moz

Comments

Crystalkop Reef

0.19

11.51

2.23

0.07

Vaal Reef EDOM

0.10

7.02

0.68

0.02

Vaal Reef Base

0.31

7.79

2.42

0.08

Total

0.60

8.86  
 5.32  
 0.17

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-  
 Cut-off  
 Cut-off  
 Stopping  
 Gold  
 change  
 value  
 value  
 width  
 Dilution  
 Kopanang  
 price  
 rate  
 g/t Au  
 cmg/t Au  
 (cm)  
 (%)  
 MCF%  
 MetRF%  
 Crystalkop  
 Reef  
 850  
 8.71  
 4.81  
 500  
 104.0  
 51      69.15      95.55  
 Vaal  
 Reef  
 850  
 8.71  
 4.81  
 500  
 104.0  
 48      69.15      95.55



**P**

**27**

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Brenda Freese

GSSA

966602

13 years

Ore Reserve

Andre Johnson

SACNASP

400011/06

21 years

Kopanang

– underground (metric)

Tonnes above

cut-off (millions)

0

20

Average grade

above cut-off (g/t)

25

20

15

10

5

0

35

30

25

20

15

10

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

5

15

10

Stilfontein Quartzite/

C-Facies Grits

Vaal Reef

C-Facies

MB5 Footwall  
Stilfontein  
Conglomerate  
Grootdraai  
Conglomerate  
Reef "Carbon"

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Moab Khotsong**

Shaft bottom -4,026.8mBD

**Reef**

**Old MM shaft**

**Main shaft**

**Backfill shaft**

**Sub RV Shaft**

115L

114L

111L

108L

105L

103L

99L

98 Inner L

92 Inner L

82 Inner L

106L

103L

Shaft bottom -3,649.3mBD

102L

101L

100L

95L

85L

80L

79L

78L

77L

76L

73L

70L

64L

1200L

**Top mine**

**Middle mine**

**Lower mine**

**Project**

**Zaaiplaats 2**

**below 101L**

**Location**

Moab Khotsong is the newest deep level gold mine in South Africa. It is situated near the towns of Orkney and Klerksdorp and is about 180km south-west of Johannesburg.

Following the successful exploration of the VR in the Moab Khotsong lease area, which lies to the south and is contiguous with the

Great Nologwa lease area, a decision was taken in late 1989 to exploit the Moab Khotsong Mineral Resource. Shaft sinking started

in 1991 and the first gold was produced in October 2003.

The AngloGold Ashanti Board approved the Moab Khotsong Project in its revised form in April 2003. The middle mine consists of a

main shaft system and a sub vertical shaft system which are utilised to exploit the VR to depths between 2,600 and 3,054m below

surface on the downthrown side of the Die Hoek and Jersey fault complex. A feasibility study of the lower mine (Zaaiplaats) was

recently completed. The project will exploit the gold bearing VR to depths of 3,455m below collar. The main shaft was commissioned

in June 2002 and the rock ventilation shaft in March 2003. Ore Reserve development on 85, 88, 92, 95, 98 and 101 levels is

progressing to plan. Stopping operations commenced in November 2003 and the mine will reach full production in 2013.

### **Geology**

The Mineral Resource at Moab Khotsong is structurally complex and highly faulted, with large fault-loss areas.

Mining is based on a

scattered mining method with an integrated backfill support system combined with bracket pillars. The raise lines are spaced 200m

apart on the dip of the reef, with 25m-long panels. Backfill is carried to within 4m of the advancing stope faces and 75% of the total

area extracted is likely to be backfilled.

The geological setting of Moab Khotsong is one of crustal extension, bounded in the north-west and south-east by major

south-dipping fault systems with north-dipping Zuiping faults sandwiched between them. The Die Hoek and Buffels East faults

structurally bound the reef blocks of the Moab middle mine to the north-west and south-east respectively. The northern boundary is

a Zuiping-type fault. The southern boundary fault of the Moab middle mine is currently not defined.

South Africa

### **Moab Khotsong**

### **Moab Khotsong**

*Schematic diagram*

**P**  
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Due to the magnitude of the displacement across the Die Hoek fault (more than 700m down to the south) geological structures encountered on the up-thrown side of the fault cannot be projected to the down-thrown side and vice versa. It is only once the development is through the Die Hoek fault that geological mappings have 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. The C Reef is preserved in the northern part of the mine where the reef has been intersected by a number of boreholes. No development or stoping has taken place on the C Reef at Moab Khotsong to date.

**Projects**

The initial investment and development of Moab Khotsong was, in part, 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 south-west of the current Moab Khotsong infrastructure, and extending some 400m deeper than the existing mine. The Moab Khotsong business plan, without growth projects, is expected to produce some 3Moz of gold until 2022, when the mine is scheduled to close. The Zaaiplaats project will provide an additional 5Moz, a life extension of some 13 years, and the opportunity to bring in additional blocks will that rely on the new project infrastructure to be explored and accessed. Project study work exploiting the Zaaiplaats block began in 2003, and in 2006, the study was successfully taken through the scoping and pre-feasibility phases. In 2007 strategic intent was obtained and Ore Reserves were published on the back of a comprehensive pre-feasibility study. The subsequent feasibility study was completed by the end of 2008 and showed competitive returns. The renewed success of the study was largely as a result of a much healthier gold price environment and outlook, and incorporated several technical changes, one being flatter declines that will be excavated by means of trackless machinery.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Moab Khotsong**

An important issue was encountered whilst developing the current Moab Khotsong middle mine, where the intersection of complex geological structures had a significant impact on the location of infrastructure, safety, production and cost performance of the mine.

Accordingly, work on the project was slowed until a higher level of confidence in the geological structural setting for Moab Khotsong and Zaaiplaats was in place.

As operations at Moab Khotsong stabilised, it was considered appropriate to start the process of developing the Zaaiplaats opportunity with a modified approach of pre-development that will facilitate drilling platforms for the gathering of orebody and structural information, together with the possibility of earlier gold production given the drilling outcomes expected.

This pre-development also retains the option to fundamentally change the orebody extraction approach through technology.

**Exploration**

Brownfields exploration is currently focussed on improving confidence in the geological model. Four surface drilling machines,

targeting the Zaaiplaats Mineral Resource, and four long inclined borehole (LIB) machines, targeting middle mine Mineral Resource

blocks, were in operation during 2010. The areas targeted by the four surface machines were on the periphery of the proposed

Zaaiplaats mining area, where multiple structures define the ore block margins.

Borehole MZA9 was intended to raise the confidence of an Inferred Mineral Resource block in the north-east portion of the Zaaiplaats

project area and also to confirm the structure between the middle and lower mines. This hole was stopped when a preferable

underground drilling option became available. In the north-west of the main Zaaiplaats block, borehole MMB5 successfully

intersected the VR target and deflection drilling is in progress. Further to the west, borehole MGR8 also successfully intersected the

VR and has moved on to deflection drilling. The long deflection of MGR6 is in progress to increase the structural confidence along

the southern margin of Zaaiplaats.

The four LIB machines, deployed in the middle mine to obtain structural information on both the VR and C Reef horizons, completed

15 boreholes and three deflections during the year. Thirteen VR intersections, four VR elimination faults and two C Reef elimination

faults were obtained.

South Africa

**Moab Khotsong**

Project Zaaiplaats

Kopanang Mine

Great Nologwa Mine

Moab Khotsong Mine

Top Mine

Middle Mine

**Moab Khotsong**

*The Zaaipplaats orebody*

**P****31****Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Moab Khotsong

Category

million

g/t

Tonnes

Moz

C Reef – Middle mine area

Measured

–

–

–

–

Indicated 0.02

8.21

0.20

0.01

Inferred 0.96

9.84

9.45

0.30

Total 0.99

9.80

9.66

0.31

VR – GNM shaft pillar area

Measured

0.11

16.95

1.83

0.06

Indicated 1.50

16.15

24.16

0.78

Inferred –

–

–

–

Total 1.60

16.20

25.98

0.84

VR – Top mine area

Measured



1.01	
25.36	
25.71	
0.83	
Indicated	0.75
19.91	
14.86	
0.48	
Inferred	0.11
14.28	
1.63	
0.05	
Total	1.87
22.51	
42.20	
1.36	
VR – Middle mine area	
Measured	
1.17	
17.56	
20.54	
0.66	
Indicated	4.36
30.55	
133.22	
4.28	
Inferred	1.80
27.02	
48.64	
1.56	
Total	7.33
27.61	
202.40	
6.51	
Lower mine – Area A	
Measured	
–	
–	
–	
–	
Indicated	0.15
23.42	
3.57	
0.11	
Inferred	1.00
22.95	
22.93	
0.74	
Total	1.15
23.01	
26.50	

0.85		
Lower mine – Area B		
Measured		
–		
–		
–		
Indicated		2.20
11.68		
25.72		
0.83		
Inferred		1.01
12.60		
12.75		
0.41		
Total		
3.21		
11.97	38.47	1.24
Lower mine – Area C		
Measured		
–		
–		
–		
–		
Indicated		0.12
8.92		
1.06		
0.03		
Inferred		2.10
11.55		
24.21		
0.78		
Total		2.21
11.41		
25.27		
0.81		
Lower mine – Area PZ 2		
Measured		
–		
–		
–		
–		
Indicated		8.30
23.10		
191.76		
6.17		
Inferred		2.88
24.12		
69.54		
2.24		
Total		11.18

23.36  
261.30  
8.40  
Moab Khotsong  
Total  
29.56  
21.37  
631.78  
20.31

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Moab Khotsong**

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Moab Khotsong

Measured

5 x 5

–

–

–

Chip sampling

Indicated

200 x 200

–

–

–

GBH drilling

Inferred

1,000 x 1,000

–

–

–

Surface boreholes

Grade control –

–

–

–

–

See Measured category

**Exclusive Mineral Resource**

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 (59%) of this Exclusive Mineral Resource is situated in the lower mine area, with minor amounts in the top mine (7%), middle mine (29%), C Reef (2%) and shaft pillar (4%) areas. The bracket pillars are designed for safety reasons and will therefore not be mined, whereas the shaft pillars can only be safely extracted at the end of the mine life.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes	
Grade	
Contained gold	
Moab Khotsong	
Category	
million	
g/t	
Tonnes	
Moz	
Measured	0.45
51.14	
22.97	
0.74	
Indicated	4.37
19.63	
85.70	
2.76	
Inferred	9.87
19.17	
189.16	
6.08	
Moab Khotsong	
Total	
14.68	
20.29	
297.82	
9.58	
South Africa	
<b>Moab Khotsong</b>	

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**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Moab Khotsong

Category

million

g/t

Tonnes

Moz

Measured

–

–

–

–

Indicated

10.95

20.70

226.62

7.29

Inferred

8.50

20.52

174.41

5.61

Moab Khotsong

Total

19.45

20.62

401.04

12.89

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Moab Khotsong

Category

million

g/t

Tonnes

Moz

VR – Top mine area

Proved

0.97

11.44

11.10

0.36

Probable		
0.75		
8.92	6.70	0.22
Total		1.72
10.34		
17.80		
0.57		
VR – Middle mine area		
Proved		
0.87		
9.36		
8.16		
0.26		
Probable		5.69
13.46		
76.55		
2.46		
Total		6.56
12.91		
84.71		
2.72		
Lower mine – Area PZ 2		
Proved		
–		
–		
–		
–		
Probable		10.40
12.54		
130.46		
4.19		
Total		10.40
12.54		
130.46		
4.19		
Moab Khotsong		
Total		
18.69		
12.47		
232.97		
7.49		
Moab Khotsong:		
Mineral Resource reconciliation		
2009 vs 2010		
Ounces (millions)		
20.45		
20.40		
20.35		
20.30		
20.25		
20.20		

20.15  
20.10  
20.05  
20.00  
Change  
20.45  
2009  
-0.38  
Depletion  
0.04  
Gold  
price  
0.29  
Explo-  
ration  
0.00  
Metho-  
dology  
20.31  
2010  
-0.09  
Cost  
0.00  
Other  
Moab Khotsong:  
Ore Reserve reconciliation  
2009 vs 2010  
Ounces (millions)  
7.5  
7.4  
7.3  
7.2  
7.1  
7.0  
6.9  
6.8  
Change  
7.14  
2009  
-0.30  
Depletion  
0.64  
Model  
change  
0.00  
New  
ounces  
from  
projects  
0.03  
Scope



change  
7.49  
2010  
0.00  
Change in  
Economics  
-0.01  
Other

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Moab Khotsong**

South Africa

**Moab Khotsong**

**Inferred Mineral Resource in business plan**

The Inferred Mineral Resource was used for optimisation purposes as it forms part of the business plan, but is excluded from the published Ore Reserve. The location and amount of this material are indicated in the following diagram and table respectively.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Moab Khotsong

Locality code

million

g/t

Tonnes

Moz

Top mine

A

0.07

12.04

0.84

0.03

Middle mine (Southwest)

B

0.07

11.43

0.81

0.03

Middle mine (Northeast)

C

0.24

16.98

4.15

0.13

Project Zaaiplaats

D

2.74

23.82

65.36

2.10

Moab Khotsong

Total

3.13

22.74

71.16

2.29

**Ore Reserve below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Moab Khotsong

Category

million

g/t

Tonnes

Moz

Proved

–

–

–

–

Probable

10.40

12.54

130.46

4.19

Moab Khotsong

Total

10.40

12.54

130.46

4.19

A

C

Middle Mine

Top Mine

Project Zaaiplaats

B

D

Measured

Indicated 1

Indicated 2

Indicated 3

Inferred

Inventory

Blue Sky

**Legend**

**Moab Khotsong**

*Inferred Mineral Resource within Ore Reserve design*

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**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

Cut-off

Stoping

Gold

change

value

value

width

Dilution

Moab Khotsong

price

rate

g/t Au

cmg/t Au

(cm)

(%)

MCF%

MetRF%

Lower mine – Area PZ 2

850

8.71

5.51

700

127.0

9

81.00

95.36

VR – Middle mine area

850

8.71

4.38

700

159.8

51

79.51

95.61

VR – Top mine area

850

8.71

4.24

700

165.2

43

74.80

95.61

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Moab Khotsong**

South Africa

**Moab Khotsong**

Moab Khotsong

– underground (metric)

Tonnes above

cut-off (millions)

0

20

Average grade

above cut-off (g/t)

30

28

26

24

22

20

18

16

14

29

28

27

26

25

24

23

22

21

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

5

15

10

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Terry Adam

GSSA

5532

32 years  
Ore Reserve  
Johan Wall  
PLATO  
PMS0164  
27 years

### **Location**

Mponeng is situated on the West Wits Line, close to the town of Carletonville in the province of Gauteng. The mine is about 65km south-west of Johannesburg and forms part of AngloGold Ashanti's West Wits operations. Mining at Mponeng is conducted at an average depth of between 2,800 to 3,400m below surface. The mine operates two vertical hoisting shafts, a sub-shaft and two service shafts. The Mponeng lease area is constrained to the north by the TauTona and Savuka mines and to the south only by the depth of the orebody, which is open-ended. In 2008, permission was granted to explore the Western Ultra Deep Levels (WUDLS) portion to the south of the mine, thereby increasing the size of the lease area and the potential Mineral Resource.

### **Geology**

The VCR is the only reef currently being mined at Mponeng. The VCR consists of a quartz pebble conglomerate (up to 3m thick) capping the uppermost angular unconformity of the Witwatersrand Supergroup. The VCR is overlain by the Ventersdorp Lavas which dramatically halted further reef development at that time. The footwall stratigraphy partially controls the reef facies type and consists of a series of argillaceous to siliceous protoquartzites, shales and siltstones from the Central Rand Group of the Witwatersrand Supergroup. The erosional nature of the deposition of the VCR means that the VCR is laid down on these different Witwatersrand footwalls. The age of these footwall formations increase from west to east.

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South Africa

### **Mponeng**

*Long vertical boreholes (LVBs) drilled from underground to intersect the CLR at depth*

116 level

development

VCR reef

blocks

CLR blocks

LVB holes

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Mponeng**

South Africa

**Mponeng**

Most of the VCR mined at Mponeng lies on footwall strata of the Kimberley Formation, which is a relatively argillaceous protoquartzite.

The VCR is dominated by a series of channel terraces at different elevations, separated by slopes where the reef widths are lower

and the angular unconformity between the footwall is larger than on reef terrace planes. More durable quartzites of the Elsburg

Formation lie to the west, while the eastern side of the mine is dominated by shales and siltstones of the Booyens Formation.

The hardness of the footwall units is thought to have influenced the development of the terraces.

An additional gold-bearing reef that occurs at Mponeng is the CLR. This reef has been mined at the adjacent Savuka and TauTona

mines, and Mponeng is planning 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. Major exploration drilling started in early 2008 in order to improve resource confidence and confirm the geological

structures that occur at the deep levels at which mining would extract the CLR. Of the three economic units that exist within the CLR,

the Mponeng CLR target area is dominated by the centrally located 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 sitting at the base of the package.



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Both the VCR and the CLR orebodies are 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 function of the geoscience department is to identify these geological features ahead of the working face. The correct mining approach can then be applied in order to minimise risk.

**Exploration**

Both the VCR and CLR at Mponeng can be accessed down to 120 level (3,645m below datum), but there is currently no infrastructure in place that can service stoping operations below 120 level. The high-grade CLR below 120 level has remained inaccessible and therefore represents an enormous opportunity of additional ounces for Mponeng. During 2010 a series of sub-vertical exploration holes were drilled from underground to intersect the CLR at depth. These sub-vertical holes were drilled to improve the confidence in the CLR orebody. The average length of each hole was 900m with the longest hole drilled in 2010 reaching 1,090m. The information that was gained from these drill-holes has confirmed the geological structure at depth and generated more confidence in the current mineralisation and estimation models. The extension of Mponeng, by generating access to the CLR, will provide the mine with a strong base from which several regional benefits can be realised, as well as enabling other smaller projects to be brought in to match the extended life of the asset and the West Wits operations as a whole. The approval of the CLR project will compliment further exploration and development of the WUDLS Mineral Resource and also has the potential to bring additional Mineral Resources from Savuka to book. The CLR in the deeper portion of the orebody (below 126 level) and the VCR in the north of the mine lease are also potentially mineable areas.

**Projects**

A fundamental geological research project has been initiated in order to develop a better understanding of the CLR deposition and mineralisation. This study is critical in optimising the exploration planning and resource estimation that would underpin any future mine expansion.

*3D seismic cubes displaying the VCR and CLR horizons*

**P****40****AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****South Africa – Mponeng**

South Africa

**Mponeng****Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Mponeng

Category

million

g/t

Tonnes

Moz

TauTona VCR shaft pillar

Measured

0.29

17.12

4.94

0.16

Indicated

1.13

19.47

22.04

0.71

Inferred

–

–

–

–

Total

1.42

18.99

26.98

0.87

VCR above 109 Level

Measured

8.28

10.73

88.89

2.86

Indicated

6.96

6.31

43.96

1.41

Inferred

–

–

–

–

Total

15.25

8.71

132.85	4.27
VCR 109 to 120 level	
Measured	
3.35	
21.47	
72.01	
2.32	
Indicated	7.34
12.40	
91.05	
2.93	
Inferred	—
—	
—	
—	
Total	10.70
15.25	
163.06	
5.24	
VCR below 120 level	
Measured	
0.34	
22.51	
7.59	
0.24	
Indicated	8.68
15.38	
133.48	
4.29	
Inferred	—
—	
—	
—	
Total	9.02
15.64	
141.07	
4.54	
Mponeng WUDLS	
Measured	
—	
—	
—	
—	
Indicated	2.44
13.17	
32.15	
1.03	
Inferred	11.52
14.68	
169.20	
5.44	

Total		13.96
14.42		
201.35		
6.47		
VCR Block 1		
Measured		
—		
18.40		
0.08		
—		
Indicated		3.06
3.91		
11.95		
0.38		
Inferred		—
—		
—		
—		
Total		3.06
3.93		
12.02		
0.39		
VCR Block 3		
Measured		
0.01		
7.02		
0.10		
—		
Indicated		7.84
6.70		
52.51		
1.69		
Inferred		—
—		
—		
—		
Total		
7.85	6.70	
52.61	1.69	
VCR Block 5		
Measured		
0.01		
1.75		
0.03		
—		
Indicated		6.04
7.16		
43.25		
1.39		
Inferred		—
—		

-	
-	
Total	6.05
7.15	
43.27	
1.39	

**P****41****Mineral Resource** continued

as at 31 December 2010

Tonnes

Grade

Contained gold

Mponeng

Category

million

g/t

Tonnes

Moz

VCR outside project areas

Measured

0.09

5.49

0.48

0.02

Indicated

7.61

3.42

26.04

0.84

Inferred

–

–

–

–

Total

7.70

3.45

26.53

0.85

TauTona CLR shaft pillar

Measured

0.30

42.28

12.76

0.41

Indicated

1.29

45.19

58.23

1.87

Inferred

–

–

–

–

Total

1.59

44.64

70.99

2.28

CL below 120 level

Measured

0.01	
23.70	
0.35	
0.01	
Indicated	34.31
14.66	
502.87	
16.17	
Inferred	11.41
14.66	
167.18	
5.37	
Total	45.73
14.66	
670.40	
21.55	
Mponeng	
Total	
122.32	
12.60	
1,541.14	
49.55	

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Mponeng

Measured

5 x 5

-

-

-

Chip sampling

Indicated

1,000 x 1,000

-

-

-

LIB and UG borehole drilling

Inferred

-

-

-

-

–  
Grade control –

–  
–  
–  
–

See Measured category

**Exclusive Mineral Resource**

It is customary with the current mine design to leave 35% to 50% of the Exclusive Mineral Resource as safety and remnant pillars ahead of current mining. These pillars and remnants are designed to provide additional stability to the mining faces during operations.

A portion of the TauTona shaft pillar and tail gold will be mined by Mponeng on both the VCR and CLR.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Mponeng

Category

million

g/t

Tonnes

Moz

Measured 8.52

17.26

147.04

4.73

Indicated 36.88

12.15

448.18

14.41

Inferred 7.87

19.78

155.70

5.01

Mponeng

Total 53.27

14.10

750.91

24.14



South Africa

**Mponeng**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Mponeng**

**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Mponeng

Category

million

g/t

Tonnes

Moz

Measured

0.35

22.56

7.94

0.26

Indicated

47.42

14.67

695.75

22.37

Inferred

22.93

14.67

336.38

10.81

Mponeng

Total

70.71

14.71

1,040.06

33.44

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Mponeng

Category

million

g/t

Tonnes

Moz

VCR above 109 level

Proved

1.80	
5.63	
10.14	
0.33	
Probable	1.42
5.21	
7.37	
0.24	
Total	3.22
5.44	
17.51	
0.56	
VCR 109 to 120 level	
Proved	
2.05	
9.98	
20.44	
0.66	
Probable	6.22
8.09	
50.29	
1.62	
Total	8.27
8.56	
70.72	
2.27	
VCR below 120 level	
Proved	
0.31	
8.85	
2.70	
0.09	
Probable	8.07
8.91	
71.92	
2.31	
Total	8.38
8.90	
74.61	
2.40	
TauTona CLR eastern block	
Proved	
—	
—	
—	
—	
Probable	1.66
9.12	
15.11	
0.49	
Total	1.66

9.12	
15.11	
0.49	
CL below 120 level	
Proved	
-	
-	
-	
-	
Probable	22.52
11.30	
254.51	
8.18	
Total	22.52
11.30	
254.51	
8.18	
Mponeng	
Total	
44.04	
9.82	
432.46	
13.90	
Mponeng:	
Mineral Resource reconciliation	
2009 vs 2010	
Ounces (millions)	
49.8	
49.6	
49.4	
49.2	
49.0	
48.8	
48.6	
48.4	
48.2	
48.0	
47.8	
Change	
49.83	
2009	
-0.70	
Depletion	
0.20	
Gold	
price	
-1.44	
Explo-	
ration	
0.00	
Metho-	

dology  
49.55  
2010  
0.00  
Cost  
1.65  
Other  
Mponeng:  
Ore Reserve reconciliation  
2009 vs 2010  
Ounces (millions)  
14.5  
14.0  
13.5  
13.0  
12.5  
12.0  
Change  
12.72  
2009  
-0.54  
Depletion  
0.06  
Model  
change  
0.00  
New  
ounces  
from  
projects  
2.00  
Scope  
change  
13.90  
2010  
0.00  
Change in  
Economics  
-0.34  
Other

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**Inferred Mineral Resource in business plan**

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

**Ore Reserve below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Mponeng

Category

million

g/t

Tonnes

Moz

Proved

0.31

8.85

2.70

0.09

Probable

30.59

10.67

326.43

10.49

Mponeng

Total

30.90

10.65

329.13

10.58

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

Cut-off

Stoping

Gold

change

value

value

width

Dilution

Mponeng

price

rate

g/t Au

cmg/t Au

(cm)

(%)

MCF%

MetRF%

CL below 120 level

850

8.71

–

750

109.9

2

81.00

98.20

TauTona CLR eastern block

850

8.71

–

750

95.0

106

81.00

97.38

VCR 109 to 120 level

850

8.71

–

750

145.0

42

83.04

97.95

VCR above 109 level

850

8.71

–

750

145.0

41

82.67

97.96

VCR below 120 level

850

8.71

–

750

145.0

37

84.47

97.98

Mponeng

– underground (metric)

Tonnes above

cut-off (millions)

0

20  
Average grade  
above cut-off (g/t)  
140  
120  
100  
80  
60  
40  
20  
0  
28  
26  
24  
22  
20  
18  
16  
14  
12  
Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off  
5  
15  
10

**Competent persons**

Professional  
Registration  
Relevant  
Category  
Name  
organisation  
number  
experience  
Mineral Resource  
Gareth Flitton  
GSSA  
9647581  
8 years  
Ore Reserve  
Piet Enslin  
PLATO  
PMS0183  
26 years

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Savuka**

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 CLR at depths varying from 2,600 to 3,500m below surface, as well as the VCR. The VCR, which is about

700m above the CLR, has largely been mined out and mining operations in the VCR section are currently confined to extracting

remnant pillars that are above the current cut-off.

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 mining operations at Savuka are planned to cease in 2011.

Any remaining Ore Reserve at the mine will be extracted through Mponeng.

**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.

*Isometric view of Savuka shaft systems and 100 level, showing the different Intrusives that occur in the area*



**P****45**

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 orebody at various levels, is responsible for most of the risk inherent with deep-level gold mining, since seismicity is associated with these features.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Savuka

Category

million

g/t

Tonnes

Moz

Ventersdorp Contact Reef

Measured

0.16

12.87

2.02

0.06

Indicated

0.34

13.53

4.64

0.15

Inferred

–

8.55

0.01

–

Total

0.50

13.32

6.67

0.21

Carbon Leader Reef

Measured

0.78

17.53

13.69

0.44

Indicated

3.79

20.00

75.74

2.43

Inferred

–

–

-	
-	
Total	4.57
19.58	
89.43	
2.88	
Savuka	
Total	5.07
18.96	
96.10	
3.09	

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Savuka

Measured

5 x 5

-

-

-

Chip sampling

Indicated

200 x 200

-

-

-

-

GBH drilling

Inferred

1,000 x 1,000

-

-

-

Surface boreholes

Grade control -

-

-

-

-

See Measured category

**Exclusive Mineral Resource**

As Savuka is going into closure mode, almost all of the published Mineral Resource is classified as Exclusive Mineral Resource. Only

0.6% of the published Mineral Resource is not part of the Exclusive Mineral Resource.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Savuka

Category

million

g/t

Tonnes

Moz

Measured

0.93

16.73

15.63

0.50

Indicated

4.11

19.45

79.85

2.57

Inferred

–

8.55

0.01

–

Savuka

Total

5.04

18.94

95.49

3.07

**P****46****AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****South Africa – Savuka**

South Africa

**Savuka****Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Savuka

Category

million

g/t

Tonnes

Moz

Ventersdorp Contact Reef

Proved

0.04

3.95

0.14

0.00

Probable 0.18

4.95

0.88

0.03

Total 0.21

4.78

1.02

0.03

Carbon Leader Reef

Proved

0.05

5.88

0.28

0.01

Probable 3.09

6.28

19.41

0.62

Total 3.14

6.27

19.69

0.63

Savuka

Total 3.35

6.18

20.71

0.67

**Inferred Mineral Resource in business plan**

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

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-				
Cut-off				
Cut-off				
Stoping				
Gold				
change				
value				
value				
width				
Dilution				
Savuka				
price				
rate				
g/t Au				
cmg/t Au				
(cm)				
(%)				
MCF%				
MetRF%				
Carbon				
Leader				
Reef				
850				
8.71				
7.96				
900				
113.0	75			
63	97			
Ventersdorp				
Contact				
Reef				
850				
8.71				
7.96				
900				
113.0	63	63	97	
Savuka:				
Mineral Resource reconciliation				
2009 vs 2010				
Ounces (millions)				
3.8				
3.7				
3.6				
3.5				
3.4				
3.3				
3.2				
3.1				

3.0  
 Change  
 3.84  
 2009  
 -0.04  
 Depletion  
 0.00  
 Gold  
 price  
 -0.25  
 Explo-  
 ration  
 -0.13  
 Metho-  
 dology  
 3.09  
 2010  
 -0.00  
 Cost  
 -0.33  
 Other  
 Savuka:  
 Ore Reserve reconciliation  
 2009 vs 2010  
 Ounces (millions)  
 0.7  
 0.6  
 0.5  
 Change  
 0.69  
 2009  
 -0.02  
 Depletion  
 0.00  
 Model  
 change  
 0.00  
 New  
 ounces  
 from  
 projects  
 0.00  
 Scope  
 change  
 0.67  
 2010  
 0.00  
 Change in  
 Economics  
 0.00  
 Other

**P**

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Savuka

– underground (metric)

Tonnes above

cut-off (millions)

0

20

Average grade

above cut-off (g/t)

5.5

5.0

4.5

4.0

3.5

3.0

2.5

2.0

1.5

1.0

29

28

27

26

25

24

23

22

21

20

19

18

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

10

15

5

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Katarien Deysel

SACNASP

400093/05

9 years  
Ore Reserve  
Joey Modise  
PLATO  
MS0113  
23 years



**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – TauTona**

South Africa

**TauTona**

**Location**

TauTona lies on the West Wits Line, just south of Carletonville in the North West Province, about 70km south-west of Johannesburg.

Mining at TauTona takes place at depths ranging from 2,000 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 CLR is a thin, on average 20cm thick, tabular, auriferous quartz pebble conglomerate that is located near the base of the Central

Rand Group. The CLR has been divided into three facies 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.

0

3km

*Areas of facies dominance*

No. 1 CLR

Overlap of No. 1 CLR over No. 2 CL facies

No. 2 CL facies

No. 3 CL facies

CL erosion channels

Shafts

*Suboutcrops*

Suboutcrop of NL vs No.1 CL  
unconformity

Suboutcrop of F/W Spc Mkr vs  
No.1 CL unconformity

Suboutcrop No.2 CL vs No.1  
CL unconformity

**Legend**

Driefontein

Blyvooruitzicht

Doornfontein

Deelkraal

Elandsrand

Western Ultra

Deep Levels

TauTona

Savuka

Mponeng

5E

9W

3

1A Subvertical

*CL eliminated by*

*Master Bedding Fault*

*Doornfontein*

*erosion channel*

*Western Driefontein*

*erosion channel*

2

1

N

**P****49**

Production levels on the VCR at TauTona are currently limited, amounting to an average of 10% of total production volumes. The VCR

comprises 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 consists of a series of slopes and horizontal terraces at

different elevations.

**Exploration**

Two development projects will be undertaken at TauTona during 2011 and include the CLR area to the east of the Bank Dyke, and

the area south of the Pretorius Fault Zone. The projects will increase the structural confidence and update the facies model within

these areas. The exploration project consists of the initial drilling of four LIBs from two different localities on 107 and 112 level

respectively. Each LIB hole will also be complemented by the drilling of at least two deflections. Drilling is scheduled to start in

January 2011 and a total of 3,900m is expected to have been drilled by November 2011.

**Projects**

An internal geological project has been launched to investigate the lateral movement of the Pretorius Fault Zone and the possible

implications thereof.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

TauTona

Category

million

g/t

Tonnes

Moz

VCR shaft pillar

Measured

0.16

18.53

2.94

0.09

Indicated

0.16

20.52

3.35

0.11

Inferred

–

–

–

–

Total

0.32

19.54

6.29

0.20

EOB between 100 & 112 levels

Measured	
0.14	
28.38	
3.98	
0.13	
Indicated	2.90
20.18	
58.54	
1.88	
Inferred	–
–	
–	
–	
Total	3.04
20.55	
62.52	
2.01	
CLR – 1C11	
Measured	
0.08	
24.25	
1.89	
0.06	
Indicated	0.43
27.11	
11.71	
0.38	
Inferred	–
–	
–	
–	
Total	0.51
26.67	
13.59	
0.44	
CLR base	
Measured	
0.36	
25.11	
9.11	
0.29	
Indicated	2.35
25.63	
60.36	
1.94	
Inferred	–
–	
–	
–	
Total	2.72
25.56	

69.46

2.23

TauTona

Total

6.59

23.04

151.87

4.88

South Africa

**TauTona**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – TauTona**

TauTona:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

6.2

6.0

5.8

5.6

5.4

5.2

5.0

4.8

Change

6.20

2009

-0.30

Depletion

0.00

Gold

price

0.10

Explo-

ration

-0.16

Metho-

dology

4.88

2010

-0.10

Cost

-0.85

Other

TauTona:

Ore Reserve reconciliation

2009 vs 2010

Ounces (millions)

2.8

2.7

2.6

2.5

2.4

2.3

2.2

2.1

2.0

Change  
 2.73  
 2009  
 -0.33  
 Depletion  
 -0.16  
 Model  
 change  
 0.00  
 New  
 ounces  
 from  
 projects  
 0.03  
 Scope  
 change  
 2.06  
 2010  
 0.00  
 Change in  
 Economics  
 -0.22  
 Other

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

Type of drilling  
 Mine/ Spacing  
 Blast-  
 Project  
 Category  
 m (- x -)  
 Diamond  
 RC  
 hole Other  
 Comments  
 TauTona  
 Measured  
 5 x 5  
 -  
 -  
 -  
 Chip sampling  
 Indicated  
 200 x 200  
 -  
 -  
 -  
 GBH drilling  
 Inferred  
 1,000 x 1,000  
 -  
 -

–  
 Surface boreholes  
 Grade control –

–  
 –  
 –  
 –

See Measured category

**Exclusive Mineral Resource**

The Exclusive Mineral Resource is dependent on mining strategy, but approximately 2.37Moz or 95% of the Exclusive Mineral

Resource is expected to be taken up in safety, boundary and remnant pillars ahead of current mining.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

TauTona

Category

million

g/t

Tonnes

Moz

Measured

0.50

24.49

12.16

0.39

Indicated

2.74

23.91

65.44

2.10

Inferred

–

–

–

–

TauTona

Total

3.23

24.00

77.61

2.50



**P****51****Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

TauTona

Category

million

g/t

Tonnes

Moz

VCR shaft pillar

Proved

0.17

7.76

1.35

0.04

Probable 0.31

7.68

2.38

0.08

Total 0.48

7.71

3.73

0.12

EOB between 100 &amp; 112 levels

Proved

0.17

7.79

1.32

0.04

Probable 2.64

9.43

24.93

0.80

Total 2.81

9.34

26.25

0.84

CLR – 1C11

Proved

0.03

9.21

0.32

0.01

Probable 0.58

9.62

5.61

0.18

Total	0.62
9.60	
5.93	
0.19	
CLR base	
Proved	
0.31	
7.52	
2.31	
0.07	
Probable	2.82
9.12	
25.73	
0.83	
Total	3.13
8.96	
28.04	
0.90	
TauTona	
Total	7.04
9.08	
63.95	
2.06	

**Inferred Mineral Resource in business plan**

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

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – TauTona**

South Africa

**TauTona**

TauTona

– underground (metric)

Tonnes above

cut-off (millions)

0

Average grade

above cut-off (g/t)

7.0

6.5

6.0

5.5

5.0

4.5

4.0

3.5

3.0

30

29

28

27

26

25

24

23

22

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

20

15

10

5

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Katarien Deysel

SACNASP

400093/05

9 years

Ore Reserve

Joey Modise

PLATO

MS0113

23 years

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

Cut-off

Stoping

Gold

change

value

value

width

Dilution

TauTona

price

rate

g/t Au

cmg/t Au

(cm)

(%)

MCF%

MetRF%

CLR – 1C11

850

8.71

10.60

1,200

113.0

56

81.82

97.23

CLR base

850

8.71

10.60

1,200

113.0

64

81.82

97.23

EOB between 100 & 112 levels

850

8.71

10.60

1,200

113.0

54  
81.82  
97.23  
VCR shaft pillar  
850  
8.71  
10.60  
1,200  
113.0  
53  
85.00  
97.23

**P**

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South Africa

**Surface operations**

**Overview**

Surface operations in the South Africa Region produce gold by treating lower-grade surface material such as rock dumps and tailings dams. The strategy is to maximise the use of the treatment gap. Uranium is also produced as a by-product from the gold-bearing reef material that is mined at Great Noligwa, Moab Khotsong and Kopanang. The Surface operations comprise the Vaal River Surface and West Wits Surface operations.

**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 re-work the marginal ore dumps (MODs) and tailings dams resulting from the mining and processing of the VR and VCR that are mined at the Vaal River underground mines in the Klerksdorp area. Gold is mainly produced by the reclamation of marginal ore dumps and a tailings dam called the Sulphur Paydam (SPD). 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 comprise MODs and tailings dams sourced from the mining and processing of the CLR and the VCR that are mined at the West Wits underground mines in the Carletonville/Fochville area.

**Ore dumps and tailings**

The MODs have been built from waste rock mined from underground access development workings and hoisted, transported and deposited via conveyor belt. The gold contained within these rock dumps was sourced from three areas:

- the 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.

The tailings storage facility (TSF) stores the residue produced by the gold plants. These tailings were pumped in a slurry form onto tailings dams and have been built up over a period of years.

The Vaal River Ore Reserve consists of 99Mt containing 1.54Moz of gold and the West Wits Ore Reserve consists of 11Mt containing 0.20Moz of gold. During 2010 10.3Mt were depleted and 0.18Moz of gold were produced from surface sources material. The no. 3 MOD at Vaal River remains an Inferred Mineral Resource while the TSF has been moved into Mineral Resource as new technology for recovering gold and uranium is being evaluated.

During 2010 the West gold plant and the marginal ore stream in the Kopanang gold plant became dedicated surface sources plants

as the treatment of Tau Lekoa and third party ore ceased.

An opportunity to upgrade marginal ore material was initiated in the West Wits area at the Savuka gold plant. The exercise has proven

to be successful and the initiative will be investigated further in 2011. The Savuka MOD is currently being screened and oversized material of greater than 65mm is being stockpiled and will be made available to external parties once permission has been granted to do so by the Department of Mineral Resources.

**Flexibility**

The no. 3 MOD at Vaal River was equipped and prepared for reclamation in 2010 and reclamation is planned to begin in 2011.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**South Africa – Surface operations**

South Africa

**Surface operations**

**Reclamation methodology**

Bulldozers are used to create furrows through the waste rock dumps in order to mix rock from different parts of the waste rock dumps that were deposited over different time periods. This is done in order to create a degree of homogenisation. The material is then loaded onto rail hoppers by means of a front-end loader and transported to the metallurgical plants. The SPD is being reclaimed by means of remote-controlled, high-pressure water pumps. 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 SPD pump station, where oversized material is screened out and then pumped to the East gold plant for processing. During 2010 the East acid plant was closed down as it became uneconomic to produce sulphuric acid internally, resulting in the treatment cost of uranium decreasing from \$40/lb to \$31/lb.

**Environmental clean-up**

Rehabilitation work is ongoing and gold is produced from clean-up operations at Vaal River where material is treated through the archive mill. In 2010 a total of 1,929oz was produced from clean-up operations.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Vaal River Surface

Category

million

g/t

Tonnes

Moz

SA Met – Tailings dump

Measured

–

–

–

–

Indicated 381.01

0.31

116.92

3.76

Inferred –

–

–

–



Total	381.01
0.31	
116.92	
3.76	
SA Met – Rock dump	
Measured	
–	
–	
–	
–	
Indicated	54.33
0.58	
31.61	
1.02	
Inferred	5.00
0.69	
3.44	
0.11	
Total	59.32
0.59	
35.04	
1.13	
Vaal River Surface	
Total	
440.33	
0.35	
151.96	
4.89	
West Wits Surface	
WWGO – Tailings dump	
Measured	
–	
–	
–	
–	
Indicated	168.27
0.25	
41.75	
1.34	
Inferred	–
–	
–	
–	
Total	168.27
0.25	
41.75	
1.34	
WWGO – Rock dump	
Measured	
–	
–	

–	
–	
Indicated	12.80
0.49	
6.23	
0.20	
Inferred	–
–	
–	
–	
Total	12.80
0.49	
6.23	
0.20	
West Wits Surface	
Total	
181.07	
0.26	
47.98	
1.54	
Surface operations	
Total	
621.40	
0.32	
199.94	
6.43	

**P**

**55**

Vaal River Surface:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

5.0

4.5

4.0

3.5

3.0

2.5

2.0

1.5

Change

1.86

2009

-0.19

Depletion

0.00

Gold

price

-0.01

Explo-

ration

0.09

Metho-

dology

4.89

2010

3.14

Cost

0.00

Other

Vaal River Surface:

Ore Reserve reconciliation

2009 vs 2010

Ounces

(millions)

1.74

1.72

1.70

1.68

1.66

1.64

1.62

1.60

1.58

1.56

1.54

1.52

Change  
 1.74  
 2009  
 -0.18  
 Depletion  
 0.01  
 Model  
 change  
 0.00  
 New  
 ounces  
 from  
 projects  
 -0.01  
 Scope  
 change  
 1.54  
 2010  
 0.00  
 Change in  
 Economics  
 -0.01  
 Other  
 West Wits Surface:  
 Mineral Resource reconciliation  
 2009 vs 2010  
 Ounces (millions)  
 1.6  
 1.4  
 1.2  
 1.0  
 0.8  
 0.6  
 0.4  
 0.2  
 0.0  
 Change  
 0.20  
 2009  
 -0.01  
 Depletion  
 0.00  
 Gold  
 price  
 0.00  
 Explo-  
 ration  
 0.01  
 Metho-  
 dology  
 1.54

2010

1.34

Cost

0.00

Other

West Wits Surface:

Ore Reserve reconciliation

2009 vs 2010

Ounces

(millions)

0.205

0.200

0.195

0.190

0.185

0.180

0.175

Change

0.18

2009

-0.01

Depletion

0.01

Model

change

0.00

New

ounces

from

projects

0.00

Scope

change

0.20

2010

0.00

Change in

Economics

0.01

Other

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Vaal River Surface

Measured

- 
- 
- 
- 
- 

Indicated

150 x 150

- 
- 
- 

Auger drilling (tailings only)

Inferred

- 
- 
- 
- 
- 

Grade control -

- 
- 
- 
- 

West Wits Surface

Measured

- 
- 
- 
- 
- 

Indicated

150 x 150

- 
- 
- 

Auger drilling (tailings only)

Inferred

- 
- 
- 
- 
- 

Grade control -

- 
- 
- 
-

**P****56****AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****South Africa – Surface operations**

South Africa

**Surface operations****Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Vaal River Surface

Category

million

g/t

Tonnes

Moz

Measured

–

–

–

–

Indicated

336.25

0.30

99.79

3.21

Inferred

–

–

–

–

Vaal River Surface

Total

336.25

0.30

99.79

3.21

West Wits Surface

Measured

–

–

–

–

Indicated

168.27

0.25

41.75

1.34

Inferred

–

–

–

–

West Wits Surface

Total

168.27

0.25  
 41.75  
 1.34  
 Surface operations  
 Total  
 504.52  
 0.28  
 141.54  
 4.55  
**Ore Reserve**  
 as at 31 December 2010  
 Tonnes  
 Grade  
 Contained gold  
 Vaal River Surface  
 Category  
 million  
 g/t  
 Tonnes  
 Moz  
 SA Met – Tailings dump  
 Proved  
 –  
 –  
 –  
 –  
 Probable 44.76  
 0.37  
 16.68  
 0.54  
 Total 44.76  
 0.37  
 16.68  
 0.54  
 SA Met – Rock dump  
 Proved  
 –  
 –  
 –  
 –  
 Probable 54.33  
 0.57  
 31.19  
 1.00  
 Total 54.33  
 0.57  
 31.19  
 1.00  
 Vaal River Surface  
 Total  
 99.09



0.48	
47.87	
1.54	
West Wits Surface	
WWGO – Rock dump	
Proved	
–	
–	
–	
–	
Probable	11.40
0.55	
6.23	
0.20	
Total	11.40
0.55	
6.23	
0.20	
West Wits Surface	
Total	
11.40	
0.55	
6.23	
0.20	
Surface operations	
Total	
110.49	
0.49	
54.10	
1.74	

**P**

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**Inferred Mineral Resource in business plan**

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Vaal River Surface

million

g/t

Tonnes

Moz

Comments

SA Met – Rock dump

5.00

0.69

3.44

0.11

No. 3 MOD is equipped and will be treated

from 2011

Total

5.00

0.69

3.44

0.11

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

Cut-off

Stoping

Gold

change

value

value

width

Dilution

Vaal River Surface

price

rate

g/t Au

cmg/t Au

(cm)

(%)

MCF%

MetRF%

SA Met – Rock dump

850

8.71

0.41

–  
–  
–  
98  
88.00  
SA Met – Tailings dump  
850  
8.71  
0.37

–  
–  
–  
100      40.00  
West Wits Surface  
WWGO – Rock dump  
850  
8.71  
0.38

–  
–  
–  
98  
88.00

**Competent persons**

Professional  
Registration  
Relevant  
Category  
Name  
organisation  
number  
experience  
Vaal River Surface  
Mineral Resource  
Raymond Orton  
PLATO  
MS0096  
24 years  
Ore Reserve  
Richard Brokken  
PLATO  
MS0171  
29 years  
West Wits Surface  
Mineral Resource  
Raymond Orton  
PLATO  
MS0096  
24 years  
Ore Reserve  
Richard Brokken

PLATO  
MS0171  
29 years

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****South Africa – Uranium**

South Africa

**Uranium****Uranium**

Moab Khotsong, Great Noligwa and Kopanang material is milled in the Noligwa gold plant and treated in the South uranium plant for uranium extraction by the reverse leach process. The ammonium diuranate is transported to the Nufcor plant where the material is calcined and packed for shipment to the converters.

1.46 Million pounds of uranium oxide was produced in 2010. The expansion project at the South uranium plant has commenced in

2010 and will be commissioned in 2012. This expansion project will allow for an increased amount of Kopanang material to be

processed for uranium oxide extraction.

**Mineral Resource – Uranium (U<sub>3</sub>O<sub>8</sub>)**

Contained uranium oxide

Tonnes

Grade

Pounds

as at 31 December 2010

Category

million

kg/t

Tonnes

million

Great Noligwa

Measured

–

–

–

–

Indicated 10.44

0.37

3,883

8.56

Inferred 0.90

0.39

352

0.78

Total 11.34

0.37

4,235

9.34

Kopanang

Measured

–

–

–

–

Indicated	21.96
0.71	
15,570	
34.33	
Inferred	2.13
0.55	
1,174	
2.59	
Total	24.09

0.69	
16,744	
36.91	
Moab Khotsong	
Measured	

–	
–	
–	
–	

Indicated	19.69
1.06	
20,828	
45.92	
Inferred	9.82
0.89	
8,726	
19.24	
Total	29.51

1.00	
29.553	
65.15	
Vaal River Surface	
Measured	

–	
–	
–	
–	

Indicated	381.01
0.09	
33,986	
74.93	
Inferred	–
–	
–	
–	
Total	381.01

0.09	
33,986	
74.93	
Mponeng	
Measured	

–	
---	--

–	
–	
Indicated	35.91
0.18	
6,521	
14.38	
Inferred	11.41
0.18	
2,028	
4.47	
Total	47.32
0.18	
8,549	
18.85	
Savuka	
Measured	–
–	
–	
–	
Indicated	4.57
0.34	
1,544	
3.40	
Inferred	–
–	
–	
–	
Total	4.57
0.34	
1,544	
3.40	

**Mineral Resource – Uranium (U3O8) continued**

Contained uranium oxide

Tonnes

Grade

Pounds

as at 31 December 2010

Category

million

kg/t

Tonnes

million

TauTona

Measured

–

–

–

Indicated

6.27

0.29

1,801

3.97

Inferred

–

–

–

Total

6.27

0.29

1,801

3.97

West Wits Surface

Measured

–

–

–

Indicated

168.27

0.07

12,098

26.67

Inferred

–

–

–

Total

168.27

0.07

12,098

26.67

Total

Measured

–

–

–

Indicated

648.12

0.15



96,230	
212.15	
Inferred	24.25
0.51	
12,280	
27.07	
Total	672.38
0.16	
108,510	
239.22	
<b>Ore Reserve – Uranium (U</b>	
<b>3</b>	
<b>O</b>	
<b>8</b>	
)	
Contained uranium oxide	
Tonnes	
Grade	
Pounds	
as at 31 December 2010	
Category	
million	
kg/t	
Tonnes	
million	
Great Noligwa	
Proved	
0.38	
0.30	
113	
0.25	
Probable	0.75
0.29	
221	
0.49	
Total	1.13
0.29	
334	
0.74	
Kopanang	
Proved	1.20
0.99	
1,183	
2.61	
Probable	12.88
0.82	
10,520	
23.19	
Total	14.07
0.83	
11,702	

25.80	
Moab Khotsong	
Proved	
1.84	
0.25	
460	
1.01	
Probable	16.84
0.54	
9,096	
20.05	
Total	18.69
0.51	
9,556	
21.07	
Total	
Proved	3.42
0.51	
1,755	
3.87	
Probable	30.47
0.65	
19,836	
43.73	
Total	33.89
0.64	
21,591	
47.60	

**Competent persons**

Professional  
 Registration  
 Relevant  
 Category  
 Name  
 organisation  
 number  
 experience  
 Mineral Resource  
 Raymond Orton  
 PLATO  
 MS0096  
 24 years  
 Ore Reserve  
 Richard Brokken  
 PLATO  
 MS0171  
 29 years

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa**

Continental Africa

Challenges in

being met

**head on**

Africa

**Tanzania**

Geita

**Namibia**

Navachab

Iduapriem

**Mali**

Morila

**Guinea**

Siguiri

**Ghana**

Obuasi

Yatela

Sadiola

**DRC**

Kibali

Mongbwalu

**P**

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**Regional overview**

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

- Iduapriem and Obuasi in Ghana;
- Siguiriri 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 declined by 6% to 1.49Moz of gold in 2010, equivalent to 33.0% of group production.

The Mineral Resource in Continental Africa, attributable to AngloGold Ashanti, totalled 71.19Moz at year-end, including an attributable Ore Reserve of 26.98Moz.

All Mineral Resources and Ore Reserves listed are attributable unless otherwise stated.

**Mineral Resource by region**

Tonnes

Grade

Contained gold

as at 31 December 2010

Category

million

g/t

Tonnes

Moz

Continental Africa Region

Measured

159.11

2.78

442.04

14.21

Indicated

452.58

2.38

1,076.18

34.60

Inferred

278.73

2.50

696.01

22.38

Total

890.42

2.49

2,214.22

71.19

**Ore Reserve by region**

Tonnes

Grade

Contained gold

as at 31 December 2010

Category

million

g/t

Tonnes

Moz

Continental Africa Region

Proved

102.29

1.84

187.74

6.04

Probable

260.02

2.51

651.55

20.95

Total

362.31

2.32

839.30

26.98

## **Country overview**

AngloGold Ashanti has two advanced projects in the 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. On 21 December 2009, Randgold and AngloGold Ashanti increased their joint venture interest in the Kibali gold project to

90%, whilst OKIMO retained a 10% holding.

The project is a joint development between three separate groups:

- AngloGold Ashanti;

- Randgold Resources Limited, who is the operator, an African-focussed gold mining and exploration business with primary listings on the London Stock Exchange and Nasdaq; and

- L'Office des Mines d'Or de Kilo-Moto (OKIMO), 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 Ashanti Kilo (AGAK) and OKIMO, a governmental body which currently holds

a 13.8% non-contributory share. AGAK is 86.2% owned by AngloGold Ashanti Limited. The area around the old Adidi mine will

undergo a feasibility study as part of the agreement with the DRC government.

### **Mineral Resource estimation**

Mineral Resource estimation is undertaken by either in-house 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 interpreted for density, rock type and grade, the latter using ordinary

kriging. The use of borehole grade top cuts is applied 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. Open pit

Mineral Resources are 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 Karagba, Chauffeur and the Sessenge Deeps high-grade domains. High-grade

domains (1.0-4.0g/t) within the ordinary kriged resource model are commonly surrounded by a low-grade (+0.3g/t) halo. 3D models of

each of these domains are created as the most prospective zones to be considered for mining.

The open pit Ore Reserves were completed on the 3D ordinary kriged resource model using Whittle® pit shell optimisations. This incorporated the mining layout, operating factors, stripping ratio and relevant cut-off grade for the mineral reserve. An open pit/underground interface was determined as optimal at 5,685mRL between the KCD open pit and underground mine. A cut-off grade analysis at US\$800/oz was used to determine a cut-off grade of 2.1g/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 3D ordinary kriged resource model. Datamine® software was used to compile the Ore Reserve through an automated stope creation process. Modifying factors for planned and unplanned rock dilution, backfill dilution and ore loss were used to amend the reported Ore Reserve. Metallurgical, environmental, social, legal, marketing and economic factors are perceived to be adequately considered in the Kibali feasibility study for the Ore Reserves to remain viable.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – DRC**

**DRC**

**P**

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DRC

**Kibali**

**Location**

The Kibali concession areas are located in the north-eastern part of the DRC near the international borders with Uganda and Sudan.

The local office of Kibali Goldmines is located in the village of Doko, which is centrally located within the project area and

approximately 180km by road from Arua on the Ugandan border and immediately north of the town of Watsa. The project area is

centred at approximately 3.13° north and 29.58° east in the administrative district of Haut Uélé in Province Orientale.

The district capital of Watsa lies about 9km to the south of the project, which is situated just north of the Kibali River on the road to

Faradje and the Sudan. 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.

**Democratic**

**Republic of**

**the Congo**

**Angola**

**CAF**

**Sudan**

**Uganda**

**Tanzania**

**Democratic**

**Republic of the**

**Congo**

**0**

**o**

**-10**

**o**

**15**

**o**

**20**

**o**

**25**

**o**

**25**

**o**

**Congo**

Luanda

Kinshasa

Brazzaville

**Burundi**

Bujumbura

**Rwanda**

Kigali

Goma

Kisingani

**Kibali**



500km

Upper Proterozoic – Recent

Middle Proterozoic

Lower Proterozoic

Archaean

**Legend**

DRC

**Kibali**

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Kibali**

**Geology**

The Moto Goldfields are located within the Moto Greenstone Belt, which consists of the Archaean Kibalian (Upper and Lower)

volcano-sedimentary rocks and ironstone-chert horizons that have been metamorphosed to greenschist facies. It is cut by regional-

scale north, east, north-east and north-west trending faults and is bounded to the north by the Middle Archaean West Nile granite-

gneiss complex and cut to the south by the Upper Zaire granitic complex.

The stratigraphy 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). The sequence is variably altered from slight to intense, such that in some cases the original lithology of the rock is

unrecognisable.

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Several major mineralised trends are outlined by the 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, north-east-striking 'mineralised corridor', 1.5km wide and 8km long. These corridors host the orebodies of

Kibali, Sessenge, Gorumbwa, Durba, Chauffeur, Karagba and Pakaka.

The main deposit, which comprises the combination of Karagba, Chaffeur and Durba, is colloquially termed the KCD deposit and

hosts 49% of the grant's Mineral Resource and 62% of the Ore Reserve (for both open pit and underground mining options). The

next biggest deposit is Pakaka, which hosts some 5% of the Mineral Resource and 6% of the Ore Reserve. Currently only the KCD

deposit hosts an underground Ore Reserve and this constitutes 83% 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 orebodies. Alteration is closely associated with the mineralisation and is typically carbonate-silica-albite with

minor sulphide.

**Exploration**

A large amount of exploration was undertaken by the previous owners of the Kibali project, Moto Goldmines Ltd, and this was

focussed 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.

A feasibility study is currently underway which is due for completion in 2011. Exploration will continue to focus on confidence

upgrades and ore extensions around the KCD deposit.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Kibali

Category

million

g/t

Tonnes

Moz

Open pit

Measured

–

–

–

–

Indicated

33.62

2.09

70.23

2.26

Inferred

17.00

2.27	
38.57	
1.24	
Total	
50.62	2.15
108.80	
3.50	
Underground	
Measured	–
–	
–	
Indicated	22.15
5.38	
119.19	
3.83	
Inferred	9.39
3.21	
30.13	
0.97	
Total	31.54
4.73	
149.33	
4.80	
Kibali	
Total	82.16
3.14	
258.13	
8.30	

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

Type of drilling  
 Mine/ Spacing  
 Blast-  
 Project  
 Category  
 m (- x -)  
 Diamond  
 RC  
 hole Other  
 Comments  
 Kibali  
 Measured  
 –  
 –  
 –  
 –  
 –  
 Indicated  
 40 x 40  
 –  
 –

Inferred

40 x 80, 80 x 80

—

—

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Continental Africa – Kibali**

DRC

**Kibali****Exclusive Mineral Resource**

The existence of 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. At KCD the Exclusive Mineral Resource makes up 37% of the total Mineral Resource and for the entire grant the

Exclusive Resource comprises 45% of the total Mineral Resource.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Kibali

Category

million

g/t

Tonnes

Moz

Measured

–

–

–

–

Indicated

22.33

2.18

48.73

1.57

Inferred

26.39

2.60

68.71

2.21

Kibali

Total

48.72

2.41

117.44

3.78

**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Kibali

Category

million

g/t

Tonnes		
Moz		
Underground		
Measured		–
–		
–		
Indicated		22.15
5.38	119.19	
3.83		
Inferred		9.39
3.21		
30.13		
0.97		
Kibali		
Total		
31.54		
4.73	149.33	
4.80		
Kibali:		
Mineral Resource reconciliation		
2009 vs 2010		
Ounces (millions)		
9.1		
9.0		
8.9		
8.8		
8.7		
8.6		
8.5		
8.4		
8.3		
8.2		
Change		
8.89		
2009		
-0.58		
Depletion		
0.74		
Gold		
price		
-0.17		
Explo-		
ration		
-0.41		
Metho-		
dology		
8.30		
2010		
-0.12		
Cost		

-0.05  
Other  
Kibali:  
Ore Reserve reconciliation  
2009 vs 2010  
Ounces (millions)  
4.6  
4.5  
4.4  
4.3  
4.2  
4.1  
4.0  
3.9  
Change  
4.14  
2009  
0.00  
Depletion  
-0.14  
Model  
change  
0.00  
New  
ounces  
from  
projects  
-0.10  
Scope  
change  
4.52  
2010  
0.28  
Change in  
Economics  
0.35  
Other



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**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Kibali

Category

million

g/t

Tonnes

Moz

Kibali – Open pit

Proved

–

–

–

–

Probable 16.82

2.67

44.94

1.44

Total 16.82

2.67

44.94

1.44

Kibali – Underground

Proved

–

–

–

–

Probable 16.62

5.76

95.75

3.08

Total 16.62

5.76

95.75

3.08

Kibali

Total

33.44

4.21

140.69

4.52

**Inferred Mineral Resource in business plan**

Some Inferred Mineral Resource was included in the optimisation process. Only the KCD deposit had more than 5% and much of

this is covered by a line of old Belgium drilling which confirmed its presence. This drilling information has not been used in the estimation or classification, and as such, is not included in the Ore Reserve.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Kibali**

DRC

**Kibali**

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

Experience

Mineral Resource

Tom Gell

AusIMM

211795

18 years

Ore Reserve

Alex Bals

PLATO

PMS0174

16 years

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

% RRF

% RRF

% MRF

% MRF

Gold

change

value

Dilution (based on

(based (based on

(based

Kibali

price

rate

g/t Au

(%)

tonnes)

on g/t)

tonnes)

on g/t)

MCF% MetRF%

Open pit

800

–  
 1.08  
 10  
 50  
 28  
 –  
 –  
 –  
 84.50  
 Underground  
 800  
 –  
 2.10  
 8  
 33  
 19  
 –  
 –  
 –  
 91.30  
 Kibali  
 – surface (metric)  
 Tonnes above  
 cut-off (millions)  
 0  
 9  
 Average grade above  
 cut-off (g/t)  
 55  
 50  
 45  
 40  
 35  
 30  
 25  
 20  
 15  
 10  
 5  
 0  
 14  
 12  
 10  
 8  
 6  
 4  
 2  
 0  
 Cut-off grade (g/t)  
 Tonnes above cut-off  
 Ave grade above cut-off

2  
3  
1  
4  
5  
6  
7  
8  
Kibali  
– underground (metric)  
Tonnes above  
cut-off (millions)  
0  
9  
Average grade  
above cut-off (g/t)  
70  
60  
50  
40  
30  
20  
10  
0  
13  
12  
11  
10  
9  
8  
7  
6  
5  
4  
3  
2  
Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off  
2  
3  
1  
4  
5  
6  
7  
8  
10

**P**

**69**

DRC

**Mongbwalu**

**Location**

The Mongbwalu Project is located within Permis d'Exploitation No. 5105, which covers an area of 396km<sup>2</sup>. It forms part of a larger

concession of exploitation licences, totalling 5,487km<sup>2</sup>, that are held in the Ituri province of the north-eastern DRC.

The district capital

of Bunia lies just to the south and west of the concession area, some three hours by road from the project site. Bunia is in turn

approximately one hour's flight from Entebbe, Uganda, which hosts the nearest major airport.

**Geology**

The Mongbwalu project is located within the Kilo Archaean granite-greenstone belt that extends 850km west-north-west of Lake

Albert and is approximately 3,000km<sup>2</sup> in extent. The oldest known rocks in the region are basement gneisses which have been dated

at more than 3,400Ma. Granitoid rock comprise more than 80% of this belt, which includes rafts of Kibalian rocks that have been

intruded by 2,651Ma old diorites of variable mineralogy.

The Kibalian rocks have been divided into an upper and lower unit. The lower unit is dominated by magnesium-rich tholeiitic basalt

whilst the upper is dominated by schists, quartzites and banded iron formations that have been intruded by quartz monzonites.

The relationship between the upper and lower units appears to be conformable.

DRC

**Mongbwalu**

**P**

**70**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Mongbwalu**

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 predominantly flatly east-dipping thrust planes, quartz reefs, thrust zones and mylonites are thought to be aged at 2,647Ma. The rocks have undergone regional metamorphism, ranging from upper green schist to lower amphibolite facies. During the formation of the East African rift system over the period 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 is hosted within anatomising mylonite bodies which average around 10-15m in width. At Mongbwalu, these mylonite bodies can be subdivided into three main blocks that are separated by two late north-south trending faults that offset mineralisation by up to 200m. The fault blocks are termed the eastern, central and western blocks (Nzebi, Adidi and Kanga mylonites). The mylonites are composed of quartz, dolomite, calcite, chlorite, sericite and albite. They generally dip to the east and are brought closer to the surface by the two late reverse north-south trending faults. The main mineralisation is hosted within the central and eastern blocks within what appears to be continuous mylonite horizons. The gold is generally not distributed evenly throughout the mylonite and the majority of it occurs as discrete boudinaged zones associated with quartz veining and silicification. The gold predominantly occurs as free gold, and is often visible in greyish quartz veins and veinlets or disseminated through silicified zones within the mylonite. Sulphides present in the mylonite include pyrite, pyrrhotite, chalcopyrite, sphalerite and galena. Granitoids dominated by diorite, quartz diorite and tonalite form the footwall and hangingwall to the mineralisation in the potential Mineral Resource area. However, at Nzebi Mine, east-west striking talc carbonate schists of mafic to ultramafic composition and massive para-amphibolite predominate.

**Mongbwalu**

*3D geological model viewed from the south showing local geology and shallow east-dipping orebodies in red*

**P**

**71**

**Exploration**

As a result of 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 aimed at upgrading the Mineral Resource estimate from Inferred to Indicated Mineral Resource. The intention was to upgrade the high-grade areas identified in the conceptual mine design for extraction 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 to Indicated Mineral Resource, which has successfully been achieved. Geo-metallurgical and geo-technical data requirements within the Mineral Resource area were identified and separate programmes to meet these requirements compiled. These programmes include geotechnical drilling for civil engineering purposes, limited sterilisation and condemnation drilling and water drilling. In total some 26,400m of drilling was completed.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Mongbwalu

Category

million

g/t

Tonnes

Moz

Underground

Measured

–

–

–

–

Indicated

3.90

7.18

27.99

0.90

Inferred

4.15

7.52

31.23

1.00

Total

8.05

7.36

59.22

1.90

Mongbwalu

Total

8.05

7.36

59.22

1.90



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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m ( - x - )

Diamond

RC

hole Other

Comments

Mongbwalu Measured

-

-

-

-

-

Indicated

25 x 50

-

-

Inferred

50 x 100

-

-

**Exclusive Mineral Resource**

The Mongbwalu Mineral Resource is reported above a cut-off grade of 2.8g/t Au. The mineralisation has been classified as Indicated

Mineral Resource and represents a drill spacing of 25m x 50m. The Exclusive and Inclusive Mineral Resource numbers are currently

identical due to the absence of Ore Reserves.

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Mongbwalu**

**DRC**

**Mongbwalu**

**P**

**73**

Mongbwalu:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

2.1

2.0

1.9

1.8

1.7

1.6

1.5

1.4

1.3

1.2

1.1

1.0

Change

2.10

2009

0.00

Depletion

0.00

Gold

price

0.00

Explo-

ration

-0.19

Metho-

dology

1.90

2010

0.00

Cost

0.00

Other

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Paul Young

SACNASP

400270/05

24 years

Mongbwalu

– underground (metric)

Tonnes above

cut-off (millions)

0

10

Average grade

above cut-off (g/t)

45

40

35

30

25

20

15

10

5

0

14

12

10

8

6

4

2

0

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

2

4

6

8

12

**P**

**74**

## **AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

### **Continental Africa – Ghana**

Ghana

#### **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.

The orebody consists of two main ore types, firstly, quartz veining with non-refractory free gold and secondly, a sulphide-hosted

mineralisation style generally associated with arsenopyrite which is refractory. Three main structural trends control the gold

mineralisation within a 9km long continuous zone which remains open at depth. The Obuasi orebody is considered one of the classic

Birimian hosted orebodies.

At Iduapriem, situated in the western region of Ghana, some 70km north of the coastal city of Takoradi and 10km south-west of

Tarkwa, the gold mineralisation is hosted by the Proterozoic Banket Series, a conglomerate sequence of the Tarkwaian System.

#### **Mineral Resource estimation**

Mineral Resource estimates are derived from interpretations of information about the location, shape, continuity and grade of the

individual orebodies.

The underground Mineral Resource at Obuasi is estimated using block models within the delineated mineralised ore zones.

The geological interpretation is based on diamond drill and cross-cut sampling information. A prototype block model of 20m x 5m

x 15m representing the minimum mining unit was used and estimates are based on ordinary kriging.

Although no open-pit mining has taken place at Obuasi since 2005, three pits still contain a Mineral Resource. The open pit Mineral

Resource at Obuasi and Iduapriem was estimated using 3D computer block models constructed using Datamine® software.

Geological interpretation was based on trench and reverse circulation and/or diamond drilling data. A prototype block model of

30m x 30m x 10m was used by the geological model and ordinary kriging as the primary estimation methodology.

Surface stockpiles volumes are based on surveyed figures 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. Datamine® 's Mineral Resource

Optimizer is used to generate the ore envelope. An appropriate mining layout is designed that incorporates mining extraction losses and dilution factors.

**P**

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Ghana

**Iduapriem**

**Location**

Iduapriem is located in the western region of Ghana, some 85km north of the coastal city of Takoradi and approximately 8km

south-west of the town of Tarkwa. Iduapriem is an open pit mine which commenced mining operations in 1992. Its processing

facilities include a 4.2Mtpa 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.

**Geology**

Iduapriem is located within the Tarkwaian Group and forms 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 north-east/south-west

trending volcanic belts separated by basins. The Tarkwaian Group was deposited in these basins as shallow water deltaic sediments.

The gold mineralisation is contained 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 conglomerates, breccia conglomerates,

quartzites and grits. 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.

*Isometric view of the Iduapriem orebody*

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Iduapriem**

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 500 microns and averages 130 microns. Sulphide mineralisation is present only at trace levels and is not associated with the gold.

The Mineral Resource originates from four mining block areas, namely Blocks 3W, 5, 7 & 8 and Ajopa. Evaluation of the Mineral

Resource was carried out using Datamine® software to generate 3D wireframe models of the mineralisation. These models are based

on geological information and 0.5g/t sample cut-off boundaries defined on 50m sections.

**Exploration**

Iduapriem is a mature operation and there is little prospect of adding to its surface Mineral Resource. The main potential for future expansion is dependent on the economic viability of its underground potential. Work on this proposal has been limited to reviewing the existing limited data to determine if an economic Mineral Resource could be delineated to support an underground mining proposition. Due to the paucity of data, a five-year phased drilling programme is being implemented, commencing in 2011. The

purpose of this initial drilling programme is two-fold:

- test the validity of the conceptual geological model; and
- increase the geological confidence of the delineated payshoots to the Inferred Mineral Resource category.

Ghana

**Iduapriem**



**P**

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**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Iduapriem

Category

million

g/t

Tonnes

Moz

Ajopa

Measured 7.29

2.00

14.55

0.47

Indicated

0.55

1.06 0.59

0.02

Inferred

1.58

1.40

2.21 0.07

Total

9.43

1.84

17.35

0.56

Block 3W

Measured

—

—

—

—

Indicated 2.25

1.52

3.41

0.11

Inferred 0.84

1.29

1.09

0.03

Total 3.09

1.46

4.50

0.14

Block 5

Measured

5.96

1.24	
7.41	
0.24	
Indicated	1.71
1.28	
2.19	
0.07	
Inferred	0.66
1.42	
0.94	
0.03	
Total	8.34
1.27	
10.55	
0.34	
Blocks 7 and 8	
Measured	
15.42	
1.37	
21.07	
0.68	
Indicated	43.17
1.73	
74.64	
2.40	
Inferred	
12.40	1.82
22.53	
0.72	
Total	70.99
1.67	
118.24	
3.80	
Stockpile (full grade ore)	
Measured	
3.89	
1.04	
4.06	
0.13	
Indicated	—
—	
—	
—	
Inferred	—
—	
—	
—	
Total	3.89
1.04	
4.06	
0.13	

Stockpile (other)

Measured

—

—

—

—

Indicated

—

—

—

—

Inferred

16.50

0.56

9.32

0.30

Total

16.50

0.56

9.32

0.30

Iduapriem

Total

112.23

1.46

164.01

5.27

Ghana

**Iduapriem**

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Iduapriem**

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Iduapriem

Measured

50 x 50, and

–

–

50 x 100

–

–

Indicated

50 x 75, and

–

–

75 x 100

–

–

Inferred

40 x 40, and

–

–

Old leach pads – portions drilled

100 x 100

–

–

approximately 40 x 40m

Grade control 10 x 12, and

–

–

–

10 x 15

–

–

–

**Exclusive Mineral Resource**

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

- Inferred 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.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Iduapriem

Category

million

g/t

Tonnes

Moz

Measured

3.33

1.75

5.82

0.19

Indicated

22.98

1.70

38.99

1.25

Inferred

31.99

1.13

36.09

1.16

Iduapriem

Total

58.31

1.39

80.90

2.60

Iduapriem:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

5.3

5.2

5.1

5.0

4.9

4.8

4.7

4.6

4.5

4.4

4.3

Change

4.60

2009  
 -0.23  
 Depletion  
 0.72  
 Gold  
 price  
 0.00  
 Explo-  
 ration  
 0.50  
 Metho-  
 dology  
 5.27  
 2010  
 -0.32  
 Cost  
 0.00  
 Other  
 Iduapriem:  
 Ore Reserve reconciliation  
 2009 vs 2010  
 Ounces (millions)  
 2.50  
 2.45  
 2.40  
 2.35  
 2.30  
 2.25  
 2.20  
 2.15  
 2.10  
 Change  
 2.40  
 2009  
 -0.25  
 Depletion  
 0.03  
 Model  
 change  
 0.00  
 New  
 ounces  
 from  
 projects  
 0.31  
 Scope  
 change  
 2.49  
 2010  
 -0.03  
 Change in

Economics

0.03

Other

**P****79****Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Iduapriem

Category

million

g/t

Tonnes

Moz

Ajopa

Proved

4.88

1.88

9.19

0.30

Probable

0.36

1.05

0.38

0.01

Total

5.23

1.83

9.56

0.31

Block 3W

Proved

-

-

-

-

Probable

1.89

1.47

2.79

0.09

Total

1.89

1.47

2.79

0.09

Block 5

Proved

5.48

1.13

6.18

0.20

Probable

1.62

1.13

1.83

0.06

Total

7.10



1.13	
8.02	
0.26	
Blocks 7 and 8	
Proved	
14.98	
1.31	
19.66	
0.63	
Probable	20.83
1.61	
33.50	
1.08	
Total	
35.81	1.48
53.15	1.71
Stockpile (full grade ore)	
Proved	
3.89	
1.04	
4.06	
0.13	
Probable	—
—	
—	
—	
Total	3.89
1.04	
4.06	
0.13	
Iduapriem	
Total	53.92
1.44	
77.58	
2.40	

**P**  
**80**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Iduapriem**

Ghana

**Iduapriem**

Iduapriem

– surface (metric)

Tonnes above

cut-off (millions)

0.0

3.0

Average grade

above cut-off (g/t)

1.0

0.5

100

90

80

70

60

50

40

30

20

10

0

4.0

3.5

3.0

2.5

2.0

1.5

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

1.5

2.5

2.0

**Inferred Mineral Resource in business plan**

The Inferred Mineral Resource within the Ore Reserve design is 5% of the total ore scheduled (51.58Mt) and exists as pockets of

Inferred material that sit within the models of all the deposits.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Iduapriem

million

g/t

Tonnes

Moz

Comments

Ajopa

0.65

1.61

1.05

0.03

RC drilling will be done on every bench (18m)

for better definition when mining commences

Block 3W

0.31

1.31

0.41

0.01

RC drilling will be done on every bench (18m)

for better definition when mining commences

Block 5

0.57

1.15

0.65

0.02

Resource drilling to convert to Ore Reserves

when mining commences

Blocks 7 and 8

0.99

1.40

1.39

0.04

RC drilling on every bench (18 m) for better

definition

Total 2.52

1.39

3.50

0.11

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

% RRF

% RRF

% MRF

% MRF

Gold

change

value

Dilution (based on

(based (based on

(based

Iduapriem

price

rate  
g/t Au  
(%)  
tonnes)  
on g/t)  
tonnes)  
on g/t)  
MCF% MetRF%  
All projects and pits  
850  
-  
-  
-  
100  
100  
100  
94  
100  
95.00

**P**

**81**

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Kwasi Osei

AusIMM

112723

16 years

Ore Reserve

Stephen Asante Yamoah

AusIMM

304095

6 years

**P**  
**82**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Obuasi**

Ghana

**Obuasi**

**Location**

Obuasi is located in the Ashanti Region of Ghana, some 320km north-west of the capital Accra. It lies at latitude 6°12' north, longitude 1°40' west and at an elevation of 280m above sea level. The mine is situated in a largely forested region, with surrounding land occupied by subsistence farming. The mining concession covers an area of 47,500Ha. Eighty communities are located within a 30km radius of the mine.

**Geology**

The mine is located within the Obuasi concession area in south-western Ghana along the north-easterly striking Ashanti volcanic belt.

The deposit is in one of the most significant Proterozoic gold belts discovered to date. The Ashanti belt consists predominantly of sedimentary and mafic volcanic rocks and is the most prominent of the five Birimian gold belts found in Ghana. The belt is a 300km

wrench fault system that extends from Dixcove in the south-west to beyond Konongo in the north-east.

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-north-east to north-east. 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 as the folding. 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. The shear zones are found in close proximity to the contact between

these rocks and the harder metamorphosed and metasomatically altered intermediate to basic upper Birimian volcanics. The contact

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 as a result of the contrast in competency between the lithological units. During crustal movement, this plane became a

zone of shearing and thrusting coeval with the compressional phases. Adjacent to the shear zones, the metasediments are replaced

by sericitic, chloritic and carbonaceous schists, which may be graphitic in places. The gold mineralisation at Obuasi occurs within the

fault zones and multiple lodes of mineralisation are a common feature.

*Model of the Obuasi orebody*

Southern orebody

Central orebody

Northern orebody

**P**

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**Exploration**

Exploration on the Obuasi concession is currently limited to underground drilling to explore the Obuasi Deeps below 50 level and the southern extensions of the current mining areas above 50 level.

**Projects**

A major project has been embarked upon at Obuasi to convert the current mining method of transverse and longitudinal open stoping to a longitudinal retreat mining method (LRMM). The conversion will take place in mining blocks where it is most suitable to do so.

The major advantage of this method is that it should result in a reduction of waste development of up to 50%. It will also reduce capital expenditure and provide additional reef drive exposure.

The Pompora reclamation project will consist of a reclamation station and pipeline that will enable the Kokoteasua and Pompora TSFs

to be reclaimed. The reclaimed material will then be pumped to the tailings sulphide plant (TSP) to extract the gold, and this project

is planned to commence in 2011.

**P****84****AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Continental Africa – Obuasi**

Ghana

**Obuasi****Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Obuasi

Category

million

g/t

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			0.17
4.77			
0.80			
0.03			
Inferred			0.21
4.76			
0.98			
0.03			
Total			0.37
4.76			
1.79			
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	—
—	
—	
—	
Inferred	0.79
2.40	
1.90	
0.06	
Total	0.79
2.40	
1.90	
0.06	
Upper mine	
Measured	
3.50	
10.14	
35.54	
1.14	
Indicated	1.70
8.24	
13.99	
0.45	
Inferred	1.66
10.71	
17.80	
0.57	
Total	6.86
9.81	
67.34	
2.16	
Above 50 base	
Measured	
34.00	
7.59	
257.90	
8.29	
Indicated	25.31
6.38	
161.41	
5.19	
Inferred	25.77
6.56	
169.10	
5.44	

Total	85.08
6.92	
588.41	
18.92	

**P****85****Mineral Resource** continued

as at 31 December 2010

Tonnes

Grade

Contained gold

Obuasi

Category

million

g/t

Tonnes

Moz

Adansi 50-60

Measured

1.69

5.66

9.59

0.31

Indicated

1.27

4.68

5.94

0.19

Inferred

2.82

5.55

15.63

0.50

Total

5.78

5.39

31.16

1.00

Stockpile (heap leach)

Measured

0.47

0.50

0.23

0.01

Indicated

—

—

—

—

Inferred

—

—

—

—

Total

0.47

0.50

0.23

0.01

Adansi 60-70

Measured

0.26		
5.21		
1.34		
0.04		
Indicated		0.31
5.31		
1.63		
0.05		
Inferred		1.68
7.14		
11.97		
0.38		
Total		
2.24		
6.67	14.93	0.48
Stockpile (surface oxides)		
Measured		
0.03		
1.72		
0.05		
0.00		
Indicated		—
—		
—		
—		
Inferred		—
—		
—		
—		
Total		0.03
1.72		
0.05		
0.00		
KMS 50-60		
Measured		
0.70		
18.22		
12.67		
0.41		
Indicated		2.20
18.52		
40.79		
1.31		
Inferred		3.07
10.91		
33.55		
1.08		
Total		5.97
14.57		
87.01		
2.80		

Stockpile (surface sulphides)

Measured

0.30

2.64

0.78

0.03

Indicated

—

—

—

—

Inferred

—

—

—

Total

0.30

2.64

0.78

0.03

KMS 60-70

Measured

0.00

12.48

0.00

0.00

Indicated

0.18

14.16

2.62

0.08

Inferred

2.76

17.62

48.70

1.57

Total

2.95

17.40

51.32

1.65

Obuasi

Total

153.53

5.98

918.32

29.52

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Obuasi**

Ghana

**Obuasi**

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Obuasi: surface

Measured

20 x 20,

–

Auger drilling, historical information.

50 x 50

–

No current exploration or production.

Indicated

30 x 30,

–

Auger drilling, historical information.

50 x 50 and

–

No current exploration or production.

60 x 60

–

Inferred

90 x 90

–

Auger drilling, historical information.

No current exploration or production.

Grade control 10 x 10

–

–

–

Obuasi: underground

Measured

20 x 20

–

–

–

Indicated

60 x 60

–  
 –  
 –  
 Inferred  
 120 x 120  
 –  
 –  
 –  
 Grade control 1.5 x 25  
 –  
 –  
 –

Chip sampling of development ends

**Exclusive Mineral Resource**

The Exclusive Mineral Resource is made up of material from underground, open pit and tailings. The bulk of the Exclusive Mineral Resource (71%) is from underground and of this, approximately 52% is locked up in Mineral Resource blocks and remnants of historically mined out areas in the northern section of the mine. Some of the Exclusive Mineral Resource will be brought into the Ore Reserve as mining development is put into place to access these areas, and also as the economic criteria changes. Further drilling will increase the confidence in the Inferred Mineral Resource to bring this material into the Ore Reserve in the near future. Approximately 10% of the Exclusive Mineral Resource is from tailings and will be brought into the Ore Reserve as infrastructure is developed and capacity is increased in the new TSP. None of the open pits are currently included in the Ore Reserve, to bring the open pits into the Ore Reserve will require more geotechnical investigation, optimisation and mine design.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes	
Grade	
Contained gold	
Obuasi	
Category	
million	
g/t	
Tonnes	
Moz	
Measured	26.35
7.62	
200.70	
6.45	
Indicated	11.48
3.94	
45.27	
1.46	
Inferred	73.27
4.84	
354.92	



11.41  
Obuasi  
Total  
5.41  
600.90  
19.32

111.10

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**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Obuasi

Category

million

g/t

Tonnes

Moz

Measured

2.65

8.92

23.60

0.76

Indicated

3.80

12.79

48.66

1.56

Inferred

7.81

8.40

65.64

2.11

Obuasi

Total

14.26

9.67

137.90

4.43

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Obuasi**

Ghana

**Obuasi**

Obuasi:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

29.8

29.7

29.6

29.5

29.4

29.3

29.2

29.1

Change

29.53

2009

-0.35

Depletion

0.00

Gold

price

0.11

Explo-

ration

0.50

Metho-

dology

29.53

2010

0.00

Cost

-0.26

Other

Obuasi:

Ore Reserve reconciliation

2009 vs 2010

Ounces (millions)

9.7

9.6

9.5

9.4

9.3

9.2

9.1

9.0

8.9

Change	
9.65	
2009	
-0.58	
Depletion	
0.31	
Model	
change	
0.00	
New	
ounces	
from	
projects	
-0.46	
Scope	
change	
8.92	
2010	
0.00	
Change in	
Economics	
0.00	
Other	
<b>Ore Reserve</b>	
as at 31 December 2010	
Tonnes	
Grade	
Contained gold	
Obuasi	
Category	
million	
g/t	
Tonnes	
Moz	
Tailings (Kokoteasua)	
Proved	
1.78	
1.96	
3.48	
0.11	
Probable	3.16
1.96	
6.19	
0.20	
Total	4.94
1.96	
9.67	
0.31	
Above 50 base	
Proved	
13.01	

7.32	
95.28	
3.06	
Probable	18.73
7.32	
137.10	
4.41	
Total	
31.74	
7.32	
232.38	
7.47	
KMS 50-60	
Proved	
-	
-	
-	
-	
Probable	2.71
13.08	
35.49	
1.14	
Total	2.71
13.08	
35.49	
1.14	
Obuasi	
Total	39.39
7.05	
277.55	
8.92	

**Inferred Mineral Resource in business plan**

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Obuasi

million

g/t

Tonnes

Moz

Comments

Tailings (Pompora)

32.86

1.57

51.74

1.66

Above 50 base

0.01

7.32

0.08  
0.00  
KMS 50-60  
0.00  
13.08  
0.01  
0.00  
Total  
32.87  
1.58  
51.83  
1.67

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**Ore Reserves below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Obuasi Category

million

g/t

Tonnes

Moz

Below 50 level

Proved

–

–

–

–

Probable 2.71

13.08

35.49

1.14

Obuasi

Total 2.71

13.08

35.49

1.14

**Ore Reserve modifying factors**

as at 31 December 2010

Cut-off

Stopping

% RRF

% RRF

% MRF

% MRF

Gold

value

Dilution

width (based on

(based (based on

(based

Obuasi

price

g/t Au

(%)

cm

tonnes)

on g/t)

tonnes)

on g/t) MetRF%

Obuasi – Above 50 base

850  
5.00  
12  
9,200  
—  
—  
—  
—  
85  
Obuasi – KMS 50–60  
850  
5.00  
12  
3,700  
—  
—  
—  
—  
85



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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Obuasi**

Ghana

**Obuasi**

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Clement Asamoah-Owusu

AusIMM

210145

26 years

Ore Reserve

Francis Owusu-Mensah

AusIMM

305571

25 years

Obuasi

– surface (metric)

Tonnes above

cut-off (millions)

0

18

Average grade

above cut-off (g/t)

5.0

4.5

4.0

3.5

3.0

2.5

2.0

1.5

1.0

0.5

0

20

18

16

14

12

10

8

6  
4  
2  
Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off  
4  
6  
2  
8  
10  
12  
14  
16  
Obuasi  
– underground (metric)  
Tonnes above  
cut-off (millions)  
0  
20  
Average grade  
above cut-off (g/t)  
120  
100  
80  
60  
40  
20  
0  
35  
30  
25  
20  
15  
10  
5  
Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off  
10  
15  
5

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Guinea

**Country overview**

The Siguiri mine is AngloGold Ashanti's only operation in the Republic of Guinea in West Africa. 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

north-east of Guinea. It lies about 850km from the capital city of Conakry. Gold-bearing ore is mined from several pits and sent to a

CIP plant.

The Siguiri orebody is hosted in Birimian aged rocks and characterised by wide zones of multiple narrow quartz veins hosting gold

mineralisation. The deposits have been influenced by a deep weathering profile, typically 50-80m below surface, resulting in broad

zones of low-grade mineralisation easily amenable to bulk mining methods. Mining is presently focussed on block 1, which hosts the

processing plant and mining operations, with ongoing exploration of blocks 2-4 expected to increase significantly in line with the

operations' long-term development plans so as to maximise the exploitation of the Mineral Resource potential.

**Mineral Resource estimation**

Mineral Resource definition drilling consists of air core (AC), RC and DD drilling. All available geological drill-hole information is

validated for usage in the models and the local geology of the orebody 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

high-grade outliers. If these values are anomalous to the general population characteristics then they are cut back to the appropriate

upper limit of the population.

The Mineral Resource is estimated using 3D computer block models constructed in Datamine® software. Geological interpretation is

based on geological borehole data. A prototype block model ranging from 10m x 10m x 2.5m to 50m x 25m x 6m block sizes,

depending on the shape of the orebody and drilling density, is used within the geological model outlines. Ordinary and indicator kriging

is used to estimate gold grades and a limiting pit shell at \$1,100/oz is used to quantify the total Mineral Resource.

**Ore Reserve estimation**

The Mineral Resource models for each pit are depleted to the mining surfaces. Costs are assigned on a pit-by-pit basis reflecting the

current existing cost structure of the operation. The relevant dilution and ore loss factors are applied and the optimisation is done in

Whittle

®

software. The relevant metallurgical recoveries, geotechnical parameters, cut-off grades and economics are applied to generate the final Ore Reserve.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Siguiri**

Guinea

**Siguiri**

**Location**

Siguiri is situated in the north-east of Guinea and is located 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 mining operation and

the current LOM plan comprises the mining of three individual pits. The oxide gold ore is mined by a mining contractor in a

conventional open-pit mining operation and processing is done by a CIP plant.

**Geology**

Mineralisation occurs in Paleoproterozoic Birimian rocks consisting of turbidites and lesser volcanoclastic sequences. The mineralisation is structurally controlled and occurs as sheeted veins or within shear zones. There are two main types of oxide

mineralisation in the Siguiri basin, namely:

- elluvial or alluvial-hosted laterite mineralisation; and
- primary quartz-vein related or shear hosted mineralisation.

The laterite mineralisation occurs as aprons of colluvial or as palaeo-channels of alluvial lateritic gravel adjacent or immediately above

the in situ vein-related or shear hosted mineralisation. The in situ mineralisation can occur as either sheeted veins or associated with

shear zones, with the best mineralisation often occurring at the intersection of the two.

The shear zone mineralisation is related to the development of a number of north-south striking shear zones that appear to cut

through different lithologies. This mineralisation is commonly associated with silicification, brecciation and quartz-albite-pyrite veining,

with magnetite present at some localities.

**Siguiri**

*3D model of geological features (veins and bedding planes) and gold-bearing samples*

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The vein related mineralisation occurs as north-east/south-west to east-west striking, discontinuous sheeted veins. The better mineralised areas are associated with vein stockworks that generally occur in the coarser, brittle siltstones and sandstones. The sheeted veins appear to be related to a younger folding event and may be developed in fold axial planes. Mineralisation is associated with white quartz veins, with grey selvages and scattered large arsenopyrite crystals proximal to these veins. The mineralisation at Siguiiri has been deeply weathered to depths of up to 100m. The mineralised saprolite provides the primary oxide feedstock for the CIP plant. The original practice at Siguiiri 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 under consideration.

**Exploration**

The primary objective of the exploration programme at Siguiiri is to discover new deposits and upgrade prospective areas to replace the annual depletion from mining. Exploration is focussed on finding and upgrading oxide style mineralisation in the saprolite, using geophysics, soil geochemistry and drill-hole sampling in the context of the regional and pit-scale geological models. There is a secondary focus to investigate and evaluate the potential mineralisation in the fresh rock so that all opportunities are explored. The 2010 budget was spent mainly on drilling, with 149,235m drilled during the year made up of 125,944m of brownfield exploration (AC and RC) in oxides; 5,984m mixed RC and DD in sulphides and a further 17,307m of sterilisation drilling.

*Structural model of the Tubani and Bindini pits*

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Siguiri**

The areas around the current pits were again the focus of the drilling in 2010 in order to investigate the potential extensions to the current pits. The principal targets that were explored include Bidini South, Kalamagna South, north-west of Seguélen North East and

South West pits, Kozan North West (ii), Kozan Central West and Sanu-Tinti-Tubani connections. Extension drilling was undertaken at Sintroko North.

During the year the Sokunu-Sintroko soil anomalies were investigated with geophysics and reconnaissance drilling, with promising

results. The fresh rock potential below a number of pits was also investigated, with particular emphasis on the Sanu-Tinti, Toubani,

Kami North East, Sintroko South, Eureka North and Soloni Pits. Soil/regolith sampling of Block 1 continued throughout the year with

approximately 85% of Block 1 covered by a 200m x 50m grid by year end. The geological model has been significantly revised

on the basis of the deep drilling and field work results, with the structural controls of the mineralisation being the focus of these

investigations. This process is ongoing and further academic studies are planned.

**Projects**

The Foulata drilling was completed in 2007 and the first Inferred Mineral Resource in Block 2 was declared in 2008. The Mineral

Resource at present is based on the assumption that ore from the deposit will be trucked to the current processing plant.

An additional 17 DD holes were drilled for metallurgical testwork and additional coverage during 2010. Opportunities for upside

potential through on-site mineral concentration are being investigated.

The Siguiri Expansion Project was initiated to investigate the economic viability of increased production volumes from Block 1.

The exploration potential for oxide and sulphide deposits is encouraging. Fast-tracking of drilling to bring the project to account is

required to meet the LOM plan. Current exploration potential is based on positive surface geochemistry results, extensive orpillage

activity, geophysical data interpretation, geological modelling and experienced target generation extrapolated from existing

mining areas.

This Siguiri expansion project, presently at scoping level, will consider alternative routes to:

- increase gold production;
- lower mining costs; and
- increase plant throughput.

Guinea

**Siguiri**

*North-east section through the Seguélen pit*

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**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Siguiri

Category

million

g/t

Tonnes

Moz

Bidini

Measured

–

–

–

–

Indicated

6.42

1.11

7.14

0.23

Inferred

12.01

0.98

11.72

0.38

Total

18.43

1.02

18.86

0.61

Eureka East

Measured

–

–

–

–

Indicated

0.46

0.78

0.36

0.01

Inferred

0.06

0.68

0.04

0.00

Total

0.52

0.77

0.40

0.01

Eureka North

Measured

–

—			
—			
—			
Indicated		0.70	
0.89			
0.62			
0.02			
Inferred		0.21	
0.79			
0.17			
0.01			
Total		0.91	
0.87			
0.78			
0.03			
Foulata			
Measured		—	
—			
—			
—			
Indicated		—	
—			
—			
—			
Inferred		2.83	
1.63			
4.61			
0.15			
Total			
2.83	1.63	4.61	0.15
Kalamagna			
Measured		—	
—			
—			
—			
Indicated		5.70	
0.72			
4.09			
0.13			
Inferred		6.45	
0.87			
5.64			
0.18			
Total		12.15	
0.80			
9.73			
0.31			
Kami			
Measured		6.59	
0.92			
6.08			



0.20	
Indicated	
4.40	
0.78	
3.42	
0.11	
Inferred	7.74
0.81	
6.30	
0.20	
Total	18.73
0.84	
15.80	
0.51	
Kosise	
Measured	—
—	
—	
—	
Indicated	9.40
0.72	
6.74	
0.22	
Inferred	8.72
0.85	
7.40	
0.24	
Total	18.13
0.78	
14.14	
0.45	
Kozan North	
Measured	
—	
—	
—	
—	
Indicated	5.56
0.64	
3.59	
0.12	
Inferred	3.10
0.76	
2.35	
0.08	
Total	8.66
0.69	
5.94	
0.19	
Kozan South	
Measured	

-	
-	
-	
-	
Indicated	2.68
0.67	
1.80	
0.06	
Inferred	1.14
0.79	
0.90	
0.03	
Total	3.82
0.71	
2.70	
0.09	

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Continental Africa – Siguiri**

Guinea

**Siguiri****Mineral Resource** continued

as at 31 December 2010

Tonnes

Grade

Contained gold

Siguiri

Category

million

g/t

Tonnes

Moz

Seguélén

Measured

7.51

0.78

5.83

0.19

Indicated

11.08

1.02

11.31

0.36

Inferred

11.13

0.97

10.82

0.35

Total

29.72

0.94

27.97

0.90

Sintroko South

Measured

–

–

–

–

Indicated

7.08

1.22

8.68

0.28

Inferred

0.22

1.77

0.39

0.01

Total

7.30

1.24

9.06

0.29

Sokunu

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Measured				
–				
–				
–				
Indicated		2.48		
0.82				
2.02				
0.07				
Inferred		0.55		
0.83				
0.46				
0.01				
Total		3.04		
0.82				
2.48				
0.08				
Soloni				
Measured		–		
–				
–				
–				
Indicated		7.18		
0.75				
5.36				
0.17				
Inferred		7.28		
0.73				
5.32				
0.17				
Total		14.46		
0.74				
10.68				
0.34				
Sorofe				
Measured				
0.06				
0.69	0.04			
–				
Indicated		6.68		
0.86				
5.77				
0.19				
Inferred		2.91		
0.82				
2.39				
0.08				
Total				
9.65	0.85	8.20		0.26
Stockpile (marginal ore)				
Measured				
20.49				

0.44		
9.02		
0.29		
Indicated		—
—		
—		
—		
Inferred		—
—		
—		
—		
Total		20.49
0.44		
9.02		
0.29		
Stockpile (full grade ore)		
Measured		
8.54		
0.86		
7.31		
0.23		
Indicated		
—		
—	—	—
Inferred		—
—		
—		
—		
Total		8.54
0.86		
7.31		
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		
Siguiri		

Total	222.73
0.77	
172.58	
5.55	

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*Ore envelopes and drilling at Siguiri*

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Siguiri**

Guinea

**Siguiri**

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Siguiri

Measured

5 x 10

–

–

–

Indicated

20 x 40,

–

–

Mainly RC, but AC is used in the early

25 x 25, and

–

–

stages and some DD holes are drilled

50 x 25

–

–

for geology

Inferred

20 x 40,

–

Mainly RC, but AC is used in the early

25 x 50, and

–

stages and some DD holes are drilled

50 x 50

–

for geology

Grade control

5 x 10,

–

–

–



5 x 12, and

–

–

–

10 x 10

–

–

–

**Exclusive Mineral Resource**

The Exclusive Mineral Resource at Siguiiri comprises:

- material that is economic at the Mineral Resource gold price of US\$1,100 per ounce, but not at the Ore Reserve price of US\$850 per ounce (73% of the Exclusive Mineral Resource);
- new deposits that are currently at the Inferred Mineral Resource level of confidence (16% of the Exclusive Mineral Resource). These areas were being infill drilled during 2010; and
- the Inferred Mineral Resource in the current pit designs (11% of the Exclusive Resource).

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Siguiiri

Category

million

g/t

Tonnes

Moz

Measured

4.46

0.80

3.59

0.12

Indicated

34.07

0.77

26.22

0.84

Inferred

77.77

0.85

66.11

2.13

Siguiiri

Total

116.30

0.82

95.91

3.08

**P**

**99**

Siguiri:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

6.6

6.4

6.2

6.0

5.8

5.6

5.4

5.2

Change

6.59

2009

-0.37

Depletion

0.30

Gold

price

0.04

Explo-

ration

-0.60

Metho-

dology

5.55

2010

-0.64

Cost

0.24

Other

Siguiri:

Ore Reserve reconciliation

2009 vs 2010

Ounces (millions)

3.1

3.0

2.9

2.8

2.7

2.6

2.5

2.4

2.3

Change

3.07

2009

-0.29

Depletion				
-0.34				
Model				
change				
0.00				
New				
ounces				
from				
projects				
-0.06				
Scope				
change				
2.38				
2010				
0.01				
Change in				
Economics				
-0.02				
Other				
<b>Ore Reserve</b>				
as at 31 December 2010				
Tonnes				
Grade				
Contained gold				
Siguiri				
Category				
million				
g/t				
Tonnes				
Moz				
Bidini				
Proved				
–				
–				
–				
Probable		0.85		
1.89				
1.62				
0.05				
Total		0.85		
1.89				
1.62				
0.05				
Eureka East				
Proved				
–				
–				
–				
–				
Probable				
0.44	0.67	0.29	0.01	

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Total		0.44		
0.67				
0.29				
0.01				
Kalamagna				
Proved		—		
—				
—				
—				
Probable		5.32		
0.70				
3.73				
0.12				
Total		5.32		
0.70				
3.73				
0.12				
Kami				
Proved		2.07		
1.21				
2.50				
0.08				
Probable		—		
—				
—				
—				
Total		2.07		
1.21				
2.50				
0.08				
Kosise				
Proved		—		
—				
—				
—				
Probable		4.11		
0.72				
2.95				
0.09				
Total				
4.11	0.72	2.95	0.09	
Kozan North				
Proved				
—				
—				
—				
—				
Probable		0.86		
0.66				
0.57				
0.02				

Total			
0.86	0.66	0.57	0.02
Kozan South			
Proved			
—			
—			
—			
—			
Probable		0.67	
0.77			
0.51			
0.02			
Total		0.67	
0.77			
0.51			
0.02			

**P****100****AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Continental Africa – Siguiri**

Guinea

**Siguiri****Ore Reserve** continued

as at 31 December 2010

Tonnes

Grade

Contained gold

Siguiri

Category

million

g/t

Tonnes

Moz

Seguélén

Proved

7.95

0.70

5.56

0.18

Probable

9.10

1.02

9.29

0.30

Total

17.05

0.87

14.84

0.48

Sintroko South

Proved

–

–

–

–

Probable

4.85

1.09

5.30

0.17

Total

4.85

1.09

5.30

0.17

Sokunu

Proved

–

–

–

–

Probable

1.66

0.87

1.44	
0.05	
Total	1.66
0.87	
1.44	
0.05	
Soloni	
Proved	—
—	
—	
—	
Probable	2.98
0.93	
2.77	
0.09	
Total	2.98
0.93	
2.77	
0.09	
Sorofe	
Proved	—
—	
—	
—	
Probable	4.64
0.85	
3.94	
0.13	
Total	4.64
0.85	
3.94	
0.13	
Stockpile (marginal ore)	
Proved	
20.49	
0.44	
9.02	
0.29	
Probable	—
—	
—	
—	
Total	20.49
0.44	
9.02	
0.29	
Stockpile (full grade ore)	
Proved	
8.54	
0.86	
7.31	

0.23		
Probable		—
—		
—		
—		
Total		8.54
0.86		
7.31		
0.23		
Stockpile (spent heap leach)		
Proved		
—		
—		
—		
—		
Probable		
31.95	0.54	
17.29	0.56	
Total		31.95
0.54		
17.29		
0.56		
Siguiri		
Total		106.49
0.70		
74.08		
2.38		

**Inferred Mineral Resource in business plan**

Some Inferred Mineral Resource was included in the optimisation process and the total Inferred Mineral Resource within the in situ ore reserve is 0.20Moz or 11% of the declared in situ Ore Reserve. The Inferred Mineral Resource was generally not used in the optimisation process except at the Tubani and Sintroko pits, since these pits are coming to an end. The inclusion of the Inferred Mineral Resource in these two pits was deemed to be insignificant in influencing the pit size as it made up less than 10% of the declared Ore Reserve in these two pits. The Seguélen pits contain 0.10Moz of Inferred material within the pit design. This Inferred material is mostly located within the Kintinia Area 1 where access to this area has historically been difficult.



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**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Sigui

million

g/t

Tonnes

Moz

Comments

Bidini

0.66

0.90

0.60

0.02

Sanutinti pits containing 6% transition ore

Eureka East

0.09

0.55

0.05

0.00

Within the Ore Reserve pit design

Kalamagna

1.11

0.64

0.71

0.02

Within the Ore Reserve pit design

Kami

0.01

1.00

0.01

0.00

100% hard oxides

Kosise

0.16

0.55

0.09

0.00

Within the Ore Reserve pit design

Kozan North

0.05

0.85

0.04

0.00

Within the Ore Reserve pit design

Kozan South

0.08

0.93  
0.08  
0.00  
Within the Ore Reserve pit design  
Seguélen  
3.47  
0.92  
3.18  
0.10  
Sanutinti pits containing 0.36% transition ore  
Sintroko South  
0.05  
0.80  
0.04  
0.00  
Within the Ore Reserve pit design  
Sokunu  
0.26  
0.70  
0.18  
0.01  
Within the Ore Reserve pit design  
Soloni  
0.85  
0.90  
0.76  
0.02  
Within the Ore Reserve pit design  
Sorofe  
0.56  
0.71  
0.39  
0.01  
Tubani pits containing 0.03% transition ore  
Total  
7.34  
0.84  
6.14  
0.20

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Siguiri**

Guinea

**Siguiri**

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Peter Winkler

AusIMM

220329

26 years

Ore Reserve

Tebogo Mushi

SAIMM

702438

9 years

Siguiri

– surface (metric)

Tonnes above

cut-off (millions)

0

4

Average grade

above cut-off (g/t)

300

250

200

150

100

50

0

7

6

5

4

3

2

1

0

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

2  
3  
1  
5

**Ore Reserve modifying factors**

as at 31 December 2010

Cut-off

% RRF

% MRF

% MRF

Gold

value

(based

(based on

(based

Siguiri

price

g/t Au

on g/t)

tonnes)

on g/t)

MCF%

MetRF%

Seguélén

850

0.35

100

100

100

100 0.94

Sintroko South

850

0.41

100

100

100

100

0.94

Sokunu

850

0.37

100

100

100

100 0.94

All remaining pits

850

0.31

100

100

100

100  
0.94  
Stockpile (full grade ore)  
850  
0.55  
100  
100  
100  
100  
0.94  
Stockpile (marginal ore)  
850  
0.35  
100  
100  
100  
100  
0.94  
Stockpile (spent heap leach)  
850  
0.35  
100  
100  
100  
100  
0.94

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Mali

**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 manages Morila.

**Mineral Resource estimation**

The Mineral Resource is taken as the material that falls within the \$1,100/oz economic shell optimised for each individual deposit.

A 3D surface is generated to create the outline of the geological model. This model is then used as a prototype model to estimate

grades. 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 have kriged block models and where appropriate,

a geostatistical technique called uniform conditioning is used to estimate the proportion of economic ore that occurs above the cut-

off and this is reported according to the dimensions of the practical mining unit.

**Ore Reserve estimation**

The Mineral Resource models are used as the basis for the Ore Reserve. Pit optimisation is done using Whittle® software. The typical

Whittle® approach for a mill-constrained operation is followed. 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.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Morila**

Mali

**Morila**

**Location**

The Morila mine is situated some 280km south-east of Bamako, the capital city of Mali. The mine is operated by Morila SA, a joint venture company incorporating Randgold Resources (40%), AngloGold Ashanti (40%) and the Government of Mali (20%). Randgold Resources took over the operation of Morila mine from AngloGold Ashanti in February 2008.

**Mining**

The Morila open-pit activities were successfully completed in April 2009. Consequently the main mining activity for the rest of the mine life will be re-handling already mined stockpiles at a rate of 4.2Mtpa using a core and backup fleet comprising two hydraulic excavators, two CAT 990 front-end loaders and seven Caterpillar 777 dump trucks.

**Geology**

The Morila orebody is located predominantly in metasediments within a broad NNW-trending corridor of shearing. This shear zone has both near vertical and flat lying components. It is interpreted as being a second order shear off the main Banafin shear, approximately 25km to the east. The Doubalakoro granite pluton bounds the sediments to the west and the Massigui granite to the east. The deposit occurs within a sequence of amphibolites facies metamorphosed Birimian metasediments. Gold mineralisation is associated with silica feldspar alteration and the sulphide minerals arsenopyrite, pyrrhotite, and pyrite (with minor chalcopyrite).

**Processing**

Ore is processed at a rate of 4.2Mtpa via a conventional 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 TSF. Supernatant water from the TSF is reclaimed and collected in the return water dam before being returned to the mill for re-use.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Morila

Category

million

g/t

Tonnes

Moz

Stockpile (marginal ore)

Measured

2.68

1.14	
3.04	
0.10	
Indicated	
—	
—	
—	
—	
Inferred	0.78
0.79	
0.61	
0.02	
Total	3.46
1.06	
3.65	
0.12	
Stockpile (full grade ore)	
Measured	
2.35	
1.68	
3.93	
0.13	
Indicated	—
—	
—	
—	
Inferred	—
—	
—	
—	
Total	2.35
1.68	
3.93	
0.13	
Morila	
Total	5.80
1.31	
7.58	
0.24	

**Exclusive Mineral Resource**

The Exclusive Mineral Resource is comprised of stockpiles below the current processing cut-off and stockpiles with diluted boundary limits.



**P**

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Morila:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

0.33

0.32

0.31

0.30

0.29

0.28

0.27

0.26

0.25

0.24

0.23

Change

0.33

2009

-0.10

Depletion

0.01

Gold

price

0.00

Explo-

ration

0.00

Metho-

dology

0.24

2010

0.00

Cost

0.00

Other

Morila:

Ore Reserve reconciliation

2009 vs 2010

Ounces (millions)

0.32

0.31

0.30

0.29

0.28

0.27

0.26

0.25

0.24

0.23

0.22			
Change			
0.32			
2009			
-0.10			
Depletion			
0.00			
Model			
change			
0.00			
New			
ounces			
from			
projects			
0.00			
Scope			
change			
0.22			
2010			
0.00			
Change in			
Economics			
0.00			
Other			
<b>Ore Reserve</b>			
as at 31 December 2010			
Tonnes			
Grade			
Contained gold			
Morila			
Category			
million			
g/t			
Tonnes			
Moz			
Stockpile (marginal ore)			
Proved			
–			
–			
–			
–			
Probable		2.68	
1.14			
3.04			
0.10			
Total			
2.68	1.14	3.04	0.10
Stockpile (full grade ore)			
Proved			
2.35			
1.68			

3.93	
0.13	
Probable	–
–	
–	
–	
Total	2.35
1.68	
3.93	
0.13	
Morila	
Total	5.02
1.39	
6.97	
0.22	

**Ore Reserve modifying factors**

as at 31 December 2010

Gold

Cut-off value

Morila

price

g/t Au

Morila – Stockpiles

850

0.90

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Tom Gell

AusIMM

211795

18 years

Ore Reserve

Alex Bals

PLATO

PMS0174

16 years

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Sadiola**

Mali

**Sadiola**

**Location**

Sadiola is situated in the north-west of Mali, 77km to the south of the regional capital of Kayes. The mining operations take place in

six open pits, namely the Sadiola main pit and five satellite pits.

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

adapted to receive soft sulphide ores and even some types of hard oxide ores.

The down dip extension of the mineralisation mined in the Sadiola main pit has been named the Deep Sulphides Project (DSP),

in which the gold ore occurs in the underlying fresh rock. A full feasibility study of the DSP is scheduled for completion in 2011.

If approved, the project will extend the life of Sadiola's operations and leverage exploration efforts and further discoveries of hard-rock

gold deposits in the district.

**Geology**

The Sadiola deposits are located within the Malian portion of the Keniéba-Kedougou Inlier, a major early Proterozoic-Birimian window

along the north-east 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.

Sadiola main pit is a brittle-ductile shear zone-hosted deposit related to the interaction of the north-striking Sadiola Fracture Zone

(SFZ) and a north-north-east striking fault array. The SFZ follows the contact between the hangingwall greywacke and footwall marble

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

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

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

The Sadiola main pit deposit originally consisted of two zones, an upper oxidised cap and an underlying sulphide zone. From 1996

until 2002, shallow saprolite oxide ore was the primary ore source. Since 2002, the deeper saprolitic sulphide ore has been mined,

progressively replacing the depleted oxide Ore Reserve. The Ore Reserve of the main pit is fully depleted with the remaining material

below the current pit being part of the DSP.

The primary source of the oxide ore currently comes from five satellite pits located approximately 6km south-east of the Sadiola mine

and processing plant. Some gold-rich, hard-oxide nodes have been also treated in the Sadiola plant, after first stage crushing.

Mineralisation for FE3 pits 1, 2 and 3 is hosted in marble adjacent to the upper contact with carbon-rich pelites. Gold is associated

with north-east-striking faults and lens-shaped breccia zones that are broadly parallel to the north-west-trending stratigraphy. The FE4

deposit is located in a bedded sandstone and pelite sequence with mineralisation predominantly hosted in breccia along a

NE-striking regional shear and several subsidiary NNE-trending faults.

**Exploration**

Exploration around Sadiola aims to grow SEMOS's current production profile by developing and upgrading Mineral Resources and

thereby Ore Reserves, and discovering new projects. To this end, 62,452m RC and 7,183m DC drilling were completed on the

Sadiola concession in 2010.

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Advanced project work has focussed on detailed structural and geological mapping to understand the controls on gold mineralisation and to maximise project potential. This has led to Mineral Resource drilling at Tambali which converted the Inferred Mineral Resource within the pit design to Indicated Mineral Resource and allowing the project to be added to the LOM plan. Additional scope exists to increase the Ore Reserve in the high-grade zone in the fresh rock.

Mineral Resource drilling at Sadiola has targeted both the oxide and deep sulphides to upgrade the Inferred Mineral Resource to

Indicated Mineral Resource inside the pit shell and to add more Mineral Resources along the NNE structures.

Mapping and drilling

around the FE3 and FE4 pit areas has indicated potential for further oxide mineralisation which will be followed up in 2011.

Regional exploration work has focussed predominantly on oxide mineralisation within the Sadiola concession.

Detailed gravity, termite

sampling and drilling is ongoing. An exploration strategy for 2011 was developed to assess the oxide endowment of the concession

through termite sampling, field mapping, trenching, IP geophysics surveys and drilling.

First stage exploration is also targeting areas of the Souroukoto Sandstone Plateau where the major mineralising structures and

basement rocks continue under shallow cover. Additionally, a more regional focus to target potential joint ventures is being

implemented.

**Projects**

A full feasibility study for the DSP was planned to be finalised in November 2010. This was completed, except for the EIA study which

was pushed back by approximately six months. To date all geological work indicates favourable results. Additional drilling has been

completed along north-east structures to target some 880,000 additional ounces and to convert the Inferred Mineral Resource to

Indicated Mineral Resource.

Work is continuing to examine the underground potential of Sadiola. Preliminary drilling targets have been identified and drilling is

expected to commence in 2012.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Sadiola

Category

million

g/t

Tonnes

Moz

FE2

Measured

–

–

–

—		
Indicated		—
—		
—		
Inferred		0.84
1.63		
1.37		
0.04		
Total		0.84
1.63		
1.37		
0.04		
FE3		
Measured		—
—		
—		
—		
Indicated		
4.02	2.12	8.53
0.27		
Inferred		0.56
3.04		
1.71		
0.05		
Total		4.58
2.24		
10.24		
0.33		
FE4		
Measured		—
—		
—		
—		
Indicated		3.42
2.01		
6.87		
0.22		
Inferred		0.26
2.20		
0.56		
0.02		
Total		3.67
2.02		
7.43		
0.24		

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Sadiola**

Mali

**Sadiola**

**Mineral Resource** continued

as at 31 December 2010

Tonnes

Grade

Contained gold

Sadiola

Category

million

g/t

Tonnes

Moz

FN2

Measured

–

–

–

Indicated

0.25

1.49

0.37

0.01

Inferred

0.36

3.35

1.21

0.04

Total

0.61

2.59

1.57

0.05

FN3

Measured

–

–

–

Indicated

0.04

1.64

0.06

0.00

Inferred

1.27

1.24

1.57

0.05

Total

1.31

1.25

1.63

0.05

Total stockpiles



Measured	
9.60	
1.39	
13.39	
0.43	
Indicated	—
—	
—	
—	
Inferred	—
—	
—	
—	
Total	9.60
1.39	
13.39	
0.43	
Sekokoto	
Measured	—
—	
—	
—	
Indicated	—
—	
—	
—	
Inferred	0.68
1.47	
1.00	
0.03	
Total	0.68
1.47	
1.00	
0.03	
Tambali South	
Measured	
—	
—	
—	
—	
Indicated	3.86
1.38	
5.34	
0.17	
Inferred	0.55
2.37	
1.30	
0.04	
Total	4.41
1.50	
6.63	

0.21	
DSP (oxides)	
Measured	
—	
2.00	
—	
—	
Indicated	0.38
1.66	
0.64	
0.02	
Inferred	0.05
1.61	
0.07	
0.00	
Total	0.43
1.66	
0.71	
0.02	
DSP (transitional)	
Measured	
—	
—	
—	
—	
Indicated	0.17
1.70	
0.29	
0.01	
Inferred	0.45
1.79	
0.80	
0.03	
Total	0.62
1.77	
1.09	
0.04	
DSP (sulphides)	
Measured	
0.00	
5.17	
0.02	
0.00	
Indicated	41.20
1.77	
72.76	
2.34	
Inferred	13.27
1.60	
21.26	
0.68	

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Total	54.47
1.73	
94.03	
3.02	
Sadiola	
Total	81.21
1.71	
139.11	
4.47	

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

Type of drilling	Mine/ Spacing
Blast-	
Project	
Category	
m (- x -)	
Diamond	
RC	
hole	Other
Comments	
Sadiola	
Measured	
25 x 25	
-	
-	
Indicated	
25 x 25,	
-	
-	
30 x 30,	
-	
-	
35 x 35, and	
-	
-	
25 x 50	
-	
-	
Inferred	
25 x 50, and	
-	
-	
50 x 50	
-	
-	
Grade control	5 x 10
-	
-	
-	

P

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Continental Africa – Sadiola****Exclusive Mineral Resource**

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

pits that 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 deposit's future potential. 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.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Sadiola

Category

million

g/t

Tonnes

Moz

Measured 4.67

0.75

3.49

0.11

Indicated 18.24

1.69

30.77

0.99

Inferred 18.27

1.69

30.85

0.99

Sadiola

Total 41.18

1.58

65.11

2.09

Mali  
**Sadiola**

**P**

**111**

Sadiola:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

4.8

4.6

4.4

4.2

4.0

3.8

3.6

Change

3.76

2009

-0.13

Depletion

0.48

Gold

price

0.56

Explo-

ration

-0.20

Metho-

dology

4.47

2010

-0.00

Cost

0.00

Other

Sadiola:

Ore Reserve reconciliation

2009 vs 2010

Ounces (millions)

2.4

2.2

2.0

1.8

1.6

1.4

1.2

Change

1.46

2009

-0.21

Depletion

0.00

Model

change  
 0.91  
 New  
 ounces  
 from  
 projects  
 0.03  
 Scope  
 change  
 2.30  
 2010  
 -0.01  
 Change in  
 Economics  
 0.12  
 Other  
**Ore Reserve**  
 as at 31 December 2010  
 Tonnes  
 Grade  
 Contained gold  
 Sadiola  
 Category  
 million  
 g/t  
 Tonnes  
 Moz  
 FE3  
 Proved  
 -  
 -  
 -  
 Probable  
 1.88  
 5.11  
 0.16  
 Total  
 1.88  
 5.11  
 0.16  
 FE4  
 Proved  
 -  
 -  
 -  
 Probable  
 1.67  
 4.62  
 0.15  
 Total  
 1.67

-  
 2.71  
 2.71  
 -  
 2.77  
 2.77



4.62				
0.15				
Total stockpiles				
Proved				
2.33				
2.95				
6.88				
0.22				
Probable		—		
—				
—				
—				
Total		2.33		
2.95				
6.88				
0.22				
Tambali South				
Proved				
—				
—				
—				
—				
Probable				
1.96	1.42	2.78	0.09	
Total		1.96		
1.42				
2.78				
0.09				
DSP (sulphides)				
Proved				
—				
—				
—				
—				
Probable				
27.83	1.87			
52.08	1.67			
Total		27.83		
1.87				
52.08				
1.67				
Sadiola				
Total		37.60		
1.90				
71.47				
2.30				

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Sadiola**

Mali

**Sadiola**

**Inferred Mineral Resource in business plan**

The plant feed of the final LOM pit designs includes 18% Inferred Mineral Resource which has been included in the final schedule,

amounting to 0.89Moz of produced gold.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Sadiola

million

g/t

Tonnes

Moz

Comments

FE3

0.40

2.48

1.00

0.03

FE3, all pits

FE4

0.12

2.13

0.25

0.01

FE, including north-west small pit

Tambali South

0.01

1.31

0.01

0.00

Tambali north and south

DSP (sulphides)

14.39

1.83

26.32

0.85

All categories of DSP

Total

14.92

1.85

27.59

0.89

**P**

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**Ore Reserve modifying factors**

as at 31 December 2010

Cut-off

% RRF

% RRF

% MRF

% MRF

Gold

value

Dilution (based on

(based (based on

(based

Sadiola

price

g/t Au

(%)

tonnes)

on g/t)

tonnes)

on g/t)

MCF% MetRF%

DSP

900

0.70

0

100

100

100

100

100

76-96\*

FE2

850

0.90

0

100

100

100

100

100

76-96\*

FE3

900

0.65

0

100

100

100

100

100  
76-96\*  
FE4  
900  
0.65  
0  
100  
100  
100  
100  
100  
100  
76-96\*  
FN2  
850  
0.70  
0  
100  
100  
100  
100  
100  
100  
76-96\*  
FN3  
850  
0.70  
0  
100  
100  
100  
100  
100  
100  
76-96\*  
Main pit (sulphides)  
900  
0.80  
0  
100  
100  
100  
100  
100  
100  
76-96\*  
Sekokoto  
850  
0.90  
0  
100  
100  
100  
100  
100

76-96\*

Tambali South

900

0.90

0

100

100

100

100

100

76-96\*

Total stockpiles

900

—

—

100

100

100

100

100

76-96\*

\*

*MetRF% varies for each material type*

Sadiola

— surface (metric)

Tonnes above

cut-off (millions)

0.5

1.9

Average grade

above cut-off (g/t)

0.7

220

200

180

160

140

120

100

80

60

40

3.0

2.5

2.0

1.5

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

1.1

1.5

1.3

0.9

1.7

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Mark Kenwright

AusIMM

302344

14 years

Ore Reserve

Karol Bartsch

AusIMM

107390

21 years

**P**

**114**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Yatela**

Mali

**Yatela**

**Location**

Yatela mine is situated some 25km north of Sadiola and approximately 50km southwest of Kayes. The Yatela operation is currently

mining from two open pits, the Yatela main pit and the satellite Alamoutala pit.

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 process. Loaded carbon is sent to Sadiola for elution, regeneration, electro-winning and smelting.

**Geology**

The Yatela and Alamoutala deposits are located in north-west Mali within the Keniéba-Kedougou Inlier, a major Early Proterozoic-

Birimian inlier along the north-east margin of the Kenema-Man shield.

The Yatela deposit is located in the north of the window and is hosted by sediments of the Kofi Formation, which have been intruded

by numerous felsic intrusives. The sediments consist of fine-grained greywacke, pelites that are locally carbon-rich, 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. This primary mineralisation was concentrated to economic grades through dissolution of the carbonate by supergene

processes.

**P**

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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 orebody being hosted in a melange-type of rocks made up of sedimentary rocks and dissolution residues. Gold is disseminated in the unconsolidated ferruginous, sandy-clayed layer that lines the bottom and walls of a deep trough with steep margins. The ore 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 Alamoutala geology comprises north-trending clastic metasediments and calcitic marbles which are 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 meta-sedimentary 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. These rocks have locally been strongly biotite and feldspar-altered. High-grade gold mineralisation is also hosted in magnetite-bearing, skarn-like calc-silicate rocks along the contact with the granodiorite intrusive.

**Exploration**

The exploration strategy around the Yatela Concession is focussed on defining high-grade oxide Mineral Resources to extend the LOM. Execution over the year has involved 64,812m RC drilling and 3,202m DC drilling, predominantly for development of the Yatela and Alamoutala orebodies. Detailed mapping of the Yatela main pit has provided a better understanding of the mineralisation with follow up Mineral Resource drilling extending the LOM until October 2013. Significant recent drill intersections around Alamoutala have highlighted an area of continuous mineralisation between the western and northern satellite pits that has been added to the current mine plan. Ground gravity surveys have been completed over most of the Yatela concession to identify the gravity lows typical for Yatela-type deposits. The exploration model implies that preferential weathering of sulphides and karstic dissolution and collapse led to the development of a relative gravity low over Yatela. Several similar gravity lows have been identified and are being assessed by termite mound sampling and drill testing. Drilling of IP targets adjacent to the Yatela main pit is in progress. Follow up of the mineralised Yatela structures that extend to the north under the Souroukoto Sandstone is also planned.

**Projects**

The exploration programme will continue in 2011 to target the high-grade oxide potential within the mining lease area. 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 processing plant.

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Yatela**

Mali

**Yatela**

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Yatela

Category

million

g/t

Tonnes

Moz

Main pit

Measured

0.08

2.46

0.19

0.01

Indicated

0.77

2.80

2.16

0.07

Inferred

0.34

2.04

0.69

0.02

Total

1.18

2.56

3.03

0.10

Yatela North

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

0.42

1.79

0.76

0.02

Total

0.42

1.79

0.76

0.02

Alamoutala pit		
Measured		
0.17		
1.44		
0.25		
0.01		
Indicated	0.67	
1.36		
0.92		
0.03		
Inferred	0.06	
1.24		
0.07		
0.00		
Total	0.90	
1.37		
1.23		
0.04		
KW18		
Measured	—	
—		
—		
—		
Indicated	0.08	
1.75		
0.14		
0.00		
Inferred	0.01	
1.94		
0.01		
0.00		
Total		
0.09	1.76	
0.15	0.00	
Total stockpiles		
Measured		
0.65		
0.56		
0.36		
0.01		
Indicated	—	
—		
—		
—		
Inferred	—	
—		
—		
—		
Total	0.65	
0.56		
0.36		

0.01	
Yatela	
Total	3.23
1.71	
5.53	
0.18	

**P**  
**117**  
**Details of average drill-hole spacing and type in relation to Mineral Resource classification**

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Yatela

Measured

5 x 10, and

-

-

25 x 25

-

-

Indicated

25 x 25, and

-

-

35 x 45

-

-

Inferred

50 x 50

-

-

Grade control 5 x 10

-

-

-

**Exclusive Mineral Resource**

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

As the Yatela

pits are approaching the end of their life, the Ore Reserve shells are optimised to ensure that all recoverable material is mined before

closure. This means that the pits were optimised at a higher gold price than the long-term equilibrium price used on the other deposits

in the group. As a result the Mineral Resource and Ore Reserve are declared in the same shell. Therefore the Exclusive Mineral

Resource consists of Inferred material within these pit designs and the material below the Ore Reserve cut-off grade and above the

Mineral Resource cut-off grade.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade	
Contained gold	
Yatela	
Category	
million	
g/t	
Tonnes	
Moz	
Measured	0.01
0.58	
0.01	
0.00	
Indicated	0.03
0.58	
0.02	
0.00	
Inferred	0.82
1.86	
1.52	
0.05	
Yatela	
Total	0.87
1.79	
1.55	
0.05	
Yatela:	
Mineral Resource reconciliation	
2009 vs 2010	
Ounces (millions)	
0.18	
0.16	
0.14	
0.12	
0.10	
0.08	
0.06	
Change	
0.14	
2009	
-0.07	
Depletion	
0.04	
Gold	
price	
0.06	
Explo-	
ration	
0.00	
Metho-	
dology	
0.18	

2010  
0.00  
Cost  
0.00  
Other  
Yatela:  
Ore Reserve reconciliation  
2009 vs 2010  
Ounces  
(millions)  
0.08  
0.07  
0.06  
0.05  
0.04  
0.03  
0.02  
0.01  
0  
Change  
0.04  
2009  
-0.07  
Depletion  
0.00  
Model  
change  
0.00  
New  
ounces  
from  
projects  
0.00  
Scope  
change  
0.08  
2010  
0.00  
Change in  
Economics  
0.11  
Other

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Yatela**

Mali

**Yatela**

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Yatela

Category

million

g/t

Tonnes

Moz

Main pit

Proved

0.05

1.46

0.07

0.00

Probable

0.66

2.16

1.42

0.05

Total

0.70

2.11

1.48

0.05

Alamoutala pit

Proved

–

–

–

–

Probable

0.58

1.35

0.78

0.03

Total

0.58

1.35

0.78

0.03

Total stockpiles

Proved

0.23

0.66

0.15

0.00

Probable

–

–



-	
-	
Total	0.23
0.66	
0.15	
0.00	
Yatela	
Total	1.52
1.60	
2.42	
0.08	

**Inferred Mineral Resource in business plan**

The plant feed of the final LOM pit designs includes 43.8% Inferred Mineral Resource, amounting to 0.11Moz of produced gold.

Stockpiles previously declared as marginal ore have been removed from the Mineral Resource and Ore Reserve due to inaccurate

survey figures. This has lead to a total estimated write-off of 0.04Moz. An airborne LIDAR survey is planned to provide accurate

stockpile figures.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Yatela

million

g/t

Tonnes

Moz

Comments

Alamoutala pit

0.10

1.36

0.14

0.00

This includes Inferred material from

satellite pits

Main pit

2.24

1.90

4.27

0.14

Inferred from Yatela main pit, drilling to be

done before mining

Total

2.34

1.88

4.40

0.14

**P**

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**Ore Reserve modifying factors**

as at 31 December 2010

Cut-off

% RRF

Gold

value

Dilution

(based on

Yatela

price

g/t Au

(%)

tonnes)

MCF%

MetRF%

Alamoutala pit

1,075

0.74

0

100

100

75-85

Main pit

1,000

0.62

0

100

100

75-85

Total stockpiles

–

0.55

0

100

100

75-85

Yatela

– surface (metric)

Tonnes above

cut-off (millions)

0.4

1.8

Average grade

above cut-off (g/t)

0.6

3.5

3.0

2.5

2.0

1.5  
1.0  
0.5  
4.5  
4.0  
3.5  
3.0  
2.5  
2.0  
1.5

Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off

1.0  
1.4  
1.2  
0.8  
1.6

**Competent persons**

Professional  
Registration  
Relevant  
Category

Name  
organisation  
number  
experience

Mineral Resource  
Mark Kenwright

AusIMM  
302344  
14 years

Ore Reserve  
Karol Bartsch  
AusIMM  
107390  
21 years

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Namibia**

Namibia

**Country overview**

Navachab gold mine, AngloGold Ashanti's sole operation in Namibia, is wholly owned by the Company.

**Mineral Resource estimation**

Mineral Resource estimation is performed using Datamine® software. Block dimensions of 25m x 25m x 5m are used as the prototype

model. Grade interpolation is done into these blocks using ordinary and indicator kriging methods. A geostatistical technique called

uniform conditioning is then used to estimate the proportion of economic ore that occur above the Mineral Resource cut-off and this

is reported according to the selective mining unit (SMU).

**Ore Reserve estimation**

MineSight

®

optimisation software is used to generate optimised pit shells using economic parameters. The final pits are then designed

based on the optimised pit shell, recommended slope geometry and ramp access requirements.

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Namibia

**Navachab**

**Location**

Navachab is located 10km SW of Karibib and 170km WNW 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 200t/h 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 is 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 main mineralisation forms a sheet-like body which plunges at an angle of approximately 20° to the NW. The mineralisation is

predominantly hosted in a sheeted quartz vein set ( $\pm 60\%$ ) and a replacement skarn ( $\pm 40\%$ ). The mineralisation in the main pit is

hosted by a NE to SW 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

2

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 north pit 2 mineralisation (located near the main pit)

where it 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 footwall and hangingwall mineralisation for further exploitation down

to 350m below surface. Drilling during the year has confirmed the footwall and hangingwall down plunge extension. Drilling during

the next four years will focus on growing the Mineral Resource base by 0.3 to 0.4Moz per year and increasing the confidence level

in the mineralisation. Exploration of the satellite deposits will continue to focus on near-surface, high-grade "Grid A" type

mineralisation to displace low-grade plant feed during stripping of the main orebody extensions. Current satellite target areas are

Anomaly 16, Gecko, Steenbok, Starling and Klipspringer.

Anomaly 16, Gecko, Steenbok, Starling and Klipspringer.

**Projects**

Exploration of the Gecko target has produced a shallow, high-grade Mineral Resource of 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 0.12Moz with potential to grow significantly. The identified 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.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Navachab**

Namibia

**Navachab**

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Navachab

Category

million

g/t

Tonnes

Moz

Anomaly 16

Measured

–

–

–

–

Indicated 1.69

1.28

2.17

0.07

Inferred 1.11

1.29

1.44

0.05

Total 2.81

1.29

3.61

0.12

Gecko

Measured –

–

–

–

Indicated 0.50

1.59

0.80

0.03

Inferred 0.29

1.37

0.40

0.01

Total 0.79

1.51

1.20

0.04		
Main pit		
Measured		
8.37		
1.23		
10.30		
0.33		
Indicated		
70.37	1.28	
89.81		
2.89		
Inferred		21.93
1.12		
24.56		
0.79		
Total		100.67
1.24		
124.68		
4.01		
Stockpile (marginal ore)		
Measured		
6.72		
0.53		
3.55		
0.11		
Indicated		—
—		
—		
—		
Inferred		—
—		
—		
—		
Total		6.72
0.53		
3.55		
0.11		
Stockpile (full grade ore)		
Measured		
8.21		
0.76		
6.23		
0.20		
Indicated		—
—		
—		
—		
Inferred		
—		
—	—	—
Total		8.21



0.76

6.23

0.20

Navachab

Total

119.20

1.17

139.28

4.48

**P**  
**123**  
**Details of average drill-hole spacing and type in relation to Mineral Resource classification**

Type of drilling	Mine/ Spacing	Blast-	Project	Category	m (- x -)	Diamond	RC	hole	Other	Comments
Measured	10 x 10	-	-	-	-	-	-	-	-	-
Indicated	25 x 25	-	-	-	-	-	-	-	-	-
Inferred	50 x 50	-	-	-	-	-	-	-	-	-
Grade control	5 x 10	-	-	-	-	-	-	-	-	-

**Exclusive Mineral Resource**

The main pit contains the largest portion (2.36Moz) of the Exclusive Mineral Resource. Approximately 0.11Moz of the Exclusive Mineral Resource hosted in the marginal ore stockpiles at a grade of 0.47g/t and the intention is to bring the gold to account through the pre-concentration route in the future. The remainder of the Exclusive Mineral Resource is from Anomaly 16 (0.06Moz), and Gecko (0.02Moz).

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes	
Grade	
Contained gold	
Navachab	
Category	
million	
g/t	
Tonnes	
Moz	
Measured	9.03

0.58	
5.24	
0.17	
Indicated	42.83
1.11	
47.50	
1.53	
Inferred	23.33
1.13	
26.41	
0.85	
Navachab	
Total	75.20
1.05	
79.15	
2.54	

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Navachab**

Namibia

**Navachab**

Navachab:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

4.5

4.4

4.3

4.2

4.1

4.0

3.9

3.8

3.7

3.6

3.5

Change

3.73

2009

-0.13

Depletion

0.15

Gold

price

0.40

Explo-

ration

0.30

Metho-

dology

4.48

2010

-0.12

Cost

0.15

Other

Navachab:

Ore Reserve reconciliation

2009 vs 2010

Ounces

(millions)

1.85

1.80

1.75

1.70

1.65

1.60  
1.55  
1.50  
1.45  
Change  
1.63  
2009  
-0.12  
Depletion  
-0.03  
Model  
change  
0.00  
New  
ounces  
from  
projects  
0.37  
Scope  
change  
1.85  
2010  
0.00  
Change in  
Economics  
0.00  
Other

**P**

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**Ore Reserve**

The bulk of the Navachab Ore Reserve is from the main pit (1.57Moz). Of this 1.3Moz is classified as Probable and 0.26Moz is

classified as Proved Ore Reserve. Anomaly 16 and Gecko satellite pit provide 0.05Moz and 0.02Moz respectively.

The total

Ore Reserve for Navachab as at the end of 2010 is 1.85Moz.

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Navachab

Category

million

g/t

Tonnes

Moz

Anomaly 16

Proved

–

–

–

–

Probable

1.13

1.47 1.66

0.05

Total 1.13

1.47

1.66

0.05

Gecko

Proved

–

–

–

–

Probable 0.43

1.67

0.71

0.02

Total 0.43

1.67

0.71

0.02

Main pit

Proved

6.06

1.35

8.18

0.26

Probable	28.18
1.44	
40.62	
1.31	
Total	34.24
1.43	
48.80	
1.57	
Stockpile (full grade ore)	
Proved	
8.21	
0.77	
6.31	
0.20	
Probable	–
–	
–	
–	
Total	8.21
0.77	
6.31	
0.20	
Navachab	
Total	
44.01	
1.31	
57.48	
1.85	

**Inferred Mineral Resource in business plan**

The Inferred Mineral Resource was used in the pit optimisation process and 0.22Moz, or 10.3%, is present in the designed pits and in the LOM schedule.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes  
 Grade  
 Contained gold  
 Navachab  
 million  
 g/t  
 Tonnes  
 Moz  
 Comments  
 Anomaly 16  
 0.80  
 1.45  
 1.16  
 0.04  
 Gecko  
 0.13  
 1.28

0.16  
0.01  
Main pit  
4.52  
1.28  
5.79  
0.19  
Total  
5.44  
1.31  
7.12  
0.23



**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Frederik Badenhorst

AusIMM

211026

19 years

Ore Reserve

George Botshiwe

AusIMM

229475

10 years

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Navachab**

Namibia

**Navachab**

Navachab

– surface (metric)

Tonnes above

cut-off (millions)

0

5

Average grade

above cut-off (g/t)

400

350

300

250

200

150

100

50

0

7

6

5

4

3

2

1

0

Cut-off grade (g/t)

Tonnes above cut-off  
 Ave grade above cut-off  
 2  
 4  
 3  
 1

**Ore Reserve modifying factors**

as at  
 Ex-  
 Cut-off  
 % RRF  
 % RRF  
 % MRF  
 % MRF  
 31 December 2010 Gold  
 change  
 value  
 Dilution (based on  
 (based (based on  
 (based  
 Navachab  
 price  
 rate  
 g/t Au  
 (%)  
 tonnes)  
 on g/t)  
 tonnes)  
 on g/t)  
 MCF%  
 MetRF%  
 Anomaly 16  
 850  
 8.71  
 0.60  
 0  
 100  
 100  
 100  
 100  
 95  
 69.22; 86.48\*  
 Gecko  
 850  
 8.71  
 0.60  
 0  
 100  
 100  
 100  
 100

95  
69.22; 86.48\*

Main pit

850

8.71

0.60

0

100

100

100

100

95

69.22; 86.48\*

Stockpiles 850

8.71

0.60

0

100

100

100

100

95

69.22;

86.48\*

\* *DMS* = 69.22%, *CIP* = 86.48%

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Tanzania

**Country overview**

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

**Mineral Resource estimation**

As with any estimation techniques, the results are dependent upon the data quality and availability. The geological model is a critical input to the Mineral Resource estimation process. The orebody boundaries for the individual deposits are defined from the detailed logging of all geological boreholes and after validation this information is used to create a 3D model. This model is subsequently populated with an appropriately dimensioned block model. The size of this block model is determined by analysing different block sizes in relation to the variance of the blocks. A block size which gives an optimal variance is then chosen. Ordinary kriging is used to interpolate values into the blocks. A geostatistical technique called uniform conditioning is then used to estimate the proportion of economic ore that occur above the Mineral Resource cut-off and this is reported according to the SMU.

**Ore Reserve estimation**

The Mineral Resource models as produced by the geology department are used as the basis for the Ore Reserve. Appropriate mining dilution is used as a modifying factor in the Ore Reserve conversion process. Appropriate Ore Reserve cut-off grades are applied and optimised pit shells are generated taking into cognisance the economic parameters. The final pits are then designed taking into consideration the optimised pit shell and recommended slope geometry.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Geita**

Tanzania

**Geita**

**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 North Mara. This geological terrain is considered to be one of the most productive Archaean Greenstone

Belts in East Africa. Mining at Geita is undertaken by standard open-pit mining methods.

**Geology**

The Geita Greenstone trend is a component of the Sukumaland Greenstone Belt. This zone of Archaean rocks strikes east-west, is

60km long and up to 15km wide. The terrain is made up of upper to mid-Nyanzian greenstone facies rocks that consist mainly of

clastic sediments, intermediate to felsic volcanoclastics and banded iron formations (BIFs). These rocks form a sedimentary sequence

that is up to 1,000m thick.

North-west trending deformation corridors separate the Geita Greenstone trend into three distinct sub-terrains. These three sub-

terrains are Nyamulilima in the west (hosting the Star and Comet, Ridge 8 and Roberts deposits), Geita in the central part (hosting

the Nyankanga, Geita Hill, Lone Cone and Chipaka deposits) and Kukuluma to the north-east (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 the Nyamulilima

sub-terrain and 6% in the Kukuluma sub-terrain.

Late dextral faults have utilised the deformation corridors at Geita and have re-activated the pre-existing fault systems. Gold

mineralisation and hydrothermal alteration of the host lithologies, on all scales, is associated with late stage ductile to brittle-ductile

deformation.

**Exploration**

During 2009 and 2010 the exploration focus revolved around risk mitigation of the Mineral Resource that will be mined from 2011 to

2013. The exploration programmes therefore largely consisted of infill drilling, with subsequent updating and refinement of the Mineral

Resource model. During the next two years additional infill drilling programmes are planned to focus on the Nyankanga underground

project areas and the planned open pit production areas.

The mine's regional exploration programme will ramp up during the next three years. The base consolidation work, involving mostly

ground geophysics, structural analysis, data consolidation and geological interpretation, was done according to ranked target areas

that had been identified by the 2008 airborne geophysical survey. Preliminary follow up drilling on the targets identified during the

2008 survey will continue into 2011 and the drilling results will be used to guide future drill targets after 2011.

**Projects**

Three prospective projects have been identified which collectively have the potential to increase the Mineral Resource and Ore

Reserve at Geita.

The Refractory Ore project is focussed on the Kukuluma sub-terrain where 58% of the ore is refractory and currently not economically

treatable at the Geita metallurgical plant. A project has been initiated to determine a suitable treatment process for this material and

exploration holes will be drilled in 2011 to assess the metallurgical characteristics of this ore. Success in this regard could increase

the potential of the underground Mineral Resource, which has a significant upside below the Kukuluma and Matandani open pits.

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The underground project will initially focus on the down dip extension of the Nyankanga orebody because this currently shows the greatest potential for economic viability. The Nyankanga orebody, together with down dip extensions to the Geita Hill and Ridge 8 orebodies, shows that potentially 3.2Moz Mineral Resource could be exploited by underground mining methods. The strategy for the Nyankanga underground project has been to evaluate the eastern (near surface) portion of the project area to assess whether it would support a pilot underground mining plan aimed at paying for additional underground exploration development. The additional exploration development drive would then prove up the predominantly Inferred Mineral Resource and provide further insight regarding the eventual mining method to be employed. This project, known as 'Block 1', was partially drilled in 2010 and the remaining portion, which forms the down dip extensions, will be drilled in 2011 to firm up on Mineral Resource confidence. The 2011 exploration drilling plan will also focus on extensional drilling to the current underground Mineral Resource. A 3D geological model of the Geita trend will amalgamate structural mapping and mineralogical characteristics and will be used to guide this extensional drilling. The third project involves potential satellite pits. Extensions to current Mineral Resources in the vicinity of the Nyankanga and Star and Comet pits have been given a higher priority. This will be followed by exploration work in the areas to the west and east of the Geita Central area. This project is still in the early exploration stage and is expected to gather momentum over the next three years.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Geita

Category

million

g/t

Tonnes

Moz

Area 3 West (oxide)

Measured

–

–

–

–

Indicated

2.42                      2.21                      0.91                      0.07

Inferred                      0.00

2.02

0.01

0.00

Total                      0.92

2.42	
2.22	
0.07	
Area 3 West (refractory ore)	
Measured	
—	
—	
—	
—	
Indicated	0.18
2.76	
0.50	
0.02	
Inferred	—
—	
—	
—	
Total	0.18
2.76	
0.50	
0.02	
Chipaka	
Measured	—
—	
—	
—	
Indicated	1.97
2.57	
5.05	
0.16	
Inferred	—
—	
—	
—	
Total	1.97
2.57	
5.05	
0.16	
Geita Hill (open pit)	
Measured	
—	
—	
—	
—	
Indicated	15.36
2.92	
44.79	
1.44	
Inferred	0.19
1.82	
0.35	



0.01		
Total	15.55	
2.90		
45.14		
1.45		
Geita Hill (underground)		
Measured		
—		
—		
—		
—		
Indicated	4.67	
5.43		
25.36		
0.82		
Inferred	2.81	
5.61		
15.78		
0.51		
Total		
7.48		
5.50	41.15	1.32
Kalondwa Hill		
Measured		
—		
—		
—		
—		
Indicated	—	
—		
—		
—		
Inferred	1.15	
3.60		
4.12		
0.13		
Total	1.15	
3.60		
4.12		
0.13		

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Geita**

Tanzania

**Geita**

**Mineral Resource** continued

as at 31 December 2010

Tonnes

Grade

Contained gold

Geita

Category

million

g/t

Tonnes

Moz

Kukuluma (non-refractory ore)

Measured

–

–

–

–

Indicated 0.10

2.84

0.30

0.01

Inferred –

–

–

Total 0.10

2.84

0.30

0.01

Kukuluma (refractory ore)

Measured

–

–

–

–

Indicated 1.46

3.75

5.47

0.18

Inferred

–

–

Total 1.46 3.75 5.47 0.18

Lone Cone

Measured	
–	
–	
–	
–	
Indicated	0.77
2.61	
2.01	
0.06	
Inferred	0.34
1.92	
0.66	
0.02	
Total	1.12
2.40	
2.67	
0.09	
Matandani (non-refractory ore)	
Measured	
–	
–	
–	
–	
Indicated	1.24
2.24	
2.78	
0.09	
Inferred	0.00
8.58	
0.03	
0.00	
Total	1.24
2.26	
2.82	
0.09	
Matandani (refractory ore)	
Measured	
–	
–	
–	
–	
Indicated	2.43
3.77	
9.19	
0.30	
Inferred	0.07
4.87	
0.34	
0.01	
Total	2.50
3.81	

9.53	
0.31	
Nyankanga (open pit)	
Measured	
—	
—	
—	
—	
Indicated	22.65
4.42	
100.17	
3.22	
Inferred	7.51
2.36	
17.73	
0.57	
Total	30.16
3.91	
117.90	
3.79	
Nyankanga (underground)	
Measured	
—	
—	
—	
—	
Indicated	5.85
4.26	
24.94	
0.80	
Inferred	4.91
4.02	
19.75	
0.64	
Total	10.76
4.15	
44.69	
1.44	
Ridge 8 (open pit)	
Measured	
—	
—	
—	
—	
Indicated	1.59
2.31	
3.69	
0.12	
Inferred	0.13
4.22	
0.54	

0.02	
Total	1.72
2.46	
4.23	
0.14	
Ridge 8 (underground)	
Measured	
–	
–	
–	
–	
Indicated	1.20
4.58	
5.50	
0.18	
Inferred	1.82
5.36	
9.77	
0.31	
Total	3.02
5.05	
15.27	
0.49	
Roberts	
Measured	–
–	
–	
–	
Indicated	6.87
1.63	
11.17	
0.36	
Inferred	0.31
4.12	
1.27	
0.04	
Total	7.18
1.73	
12.45	
0.40	

**P****131****Mineral Resource** continued

as at 31 December 2010

Tonnes

Grade

Contained gold

Geita

Category

million

g/t

Tonnes

Moz

Star and Comet

Measured

-

-

-

-

Indicated 3.91

4.19

16.37

0.53

Inferred 2.70

3.41

9.21

0.30

Total 6.61

3.87

25.58

0.82

Stockpile (full grade ore)

Measured

-

-

-

-

Indicated 1.86

2.01

3.74

0.12

Inferred -

-

-

-

Total 1.86

2.01

3.74

0.12

Stockpile (marginal ore)

Measured

-	
-	
-	
-	
Indicated	6.01
0.88	
5.30	
0.17	
Inferred	-
-	
-	
-	
Total	6.01
0.88	
5.30	
0.17	
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	102.27
3.43	
350.46	
11.27	

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

Type of drilling  
 Mine/ Spacing  
 Blast-  
 Project  
 Category  
 m (- x -)  
 Diamond  
 RC  
 hole Other  
 Comments  
 Geita

Measured

—  
—  
—  
—  
—

Indicated

20 x 20, and

—  
—

Infill drilling was done at 20 x 20m to  
40 x 40

—  
—

increase the confidence of the Mineral  
Resource; 40 x 40m is the lower limit for  
the Indicated Mineral Resource

Inferred

50 x 50, and

—  
—

50 x 80

—  
—

Grade control 5 x 10, and

—  
—

Depths vary from 10 to 30m

5 x 10

—  
—

### **Exclusive Mineral Resource**

The Exclusive Mineral Resource at Geita totals 6.5Moz and includes the underground Mineral Resource plus additional material that

occurs between the Ore Reserve pit shell (at a gold price of \$850/oz) and the Mineral Resource pit shell (at a gold price of \$1,100/oz).

This material is sub economic to mine at the current Ore Reserve gold price and forms potential extensions to the current 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.



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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Continental Africa – Geita**

Tanzania

**Geita**

Cut 9 contains approximately 0.2Moz of Exclusive Mineral Resource and lies immediately south-west of the Nyankanga open pit.

It could support an additional pushback and drilling will resume once access has been established. Further programmes to upgrade

confidence in the Star, Comet and Geita Hill East pits are planned for 2011.

The Exclusive Mineral Resource forming part of the mine's business plan comprises approximately 0.5Moz from underground

extensions to the Nyankanga open pit and 0.2Moz from Inferred Mineral Resource material located within 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 orebody extends down dip, below the current LOM design pit shell and could potentially be 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.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Geita

Category

million

g/t

Tonnes

Moz

Measured

–

–

–

Indicated

41.62

2.93

121.83

3.92

Inferred

21.95

3.62

79.57

2.56

Geita

Total

63.57

3.17

201.40

6.48

Geita:

Mineral Resource reconciliation

2009 vs 2010

Ounces

(millions)

11.6

11.5

11.4

11.3

11.2

11.1

11.0

10.9

Change

11.45

2009

-0.43

Depletion

0.54

Gold

price

0.00

Explo-

ration

0.33

Metho-

dology

11.27

2010

-0.58

Cost

-0.05

Other

Geita:

Ore Reserve reconciliation

2009 vs 2010

Ounces

(millions)

5.1

5.0

4.9

4.8

4.7

4.6

4.5

4.4

4.3

4.2

Change

5.07  
2009  
-0.46  
Depletion  
-0.26  
Model  
change  
0.00  
New  
ounces  
from  
projects  
-0.06  
Scope  
change  
4.21  
2010  
-0.03  
Change in  
Economics  
-0.04  
Other

**P****133****Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Geita

Category

million

g/t

Tonnes

Moz

Area 3 West (oxide)

Proved

-

-

-

-

Probable 0.40

2.56

1.03

0.03

Total 0.40

2.56

1.03

0.03

Geita Hill (open pit)

Proved

-

-

-

-

Probable 11.72

2.66

31.23

1.00

Total 11.72

2.66

31.23

1.00

Nyankanga (open pit)

Proved

-

-

-

-

Probable 19.20

4.03

77.48

2.49

Total 19.20

4.03

77.48

2.49

Ridge 8 (open pit)

Proved

—

—

—

—

Probable

0.70

2.51 1.76 0.06

Total 0.70

2.51

1.76

0.06

Roberts

Proved

—

—

—

—

Probable 2.75

1.60

4.39

0.14

Total 2.75

1.60

4.39

0.14

Star and Comet

Proved

—

—

—

—

Probable 2.50

4.07

10.19

0.33

Total 2.50

4.07

10.19

0.33

Stockpile (full grade ore)

Proved

—

—

—

—

Probable

Edgar Filing: ANGLOGOLD ASHANTI LTD - Form 6-K

1.74	1.83	3.20
0.10		
Total		1.74
1.83		
3.20		
0.10		
Stockpile (marginal ore)		
Proved		
-		
-		
-		
-		
Probable		1.89
0.94		
1.78		
0.06		
Total		1.89
0.94		
1.78		
0.06		
Geita		
Total		40.92
3.20		
131.06		
4.21		

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Continental Africa – Geita**

Tanzania

**Geita**

**Inferred Mineral Resource in business plan**

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.

The magnitude of this Inferred Mineral Resource is quantified in the table below.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Geita

million

g/t

Tonnes

Moz

Comments

Area 3 West (oxide)

0.00

1.40

0.00

0.00

Geita Hill (open pit)

0.17

2.71

0.46

0.01

Ridge 8 (open pit)

0.00

1.19

0.00

0.00

Star and Comet

0.07

3.37

0.23

0.01

Nyankanga (open pit)

3.23

1.72

5.56

0.18

Most of the ore is full grade ore from Cut 7 and Cut 8

Total

3.47  
1.80  
6.25  
0.20



**P**

**135**

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Steven Robins

AusIMM

222533

15 years

Ore Reserve

Jasper Musadaidzwa

AusIMM

991333

12 years

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

% RRF

% RRF

% MRF

% MRF

Gold

change

value (based on

(based (based on

(based

Geita

price

rate

g/t Au

tonnes)

on g/t)

tonnes)

on g/t)

MCF% MetRF%

Area 3 West (refractory ore)

850

1,300

1.48

100

100

105

95

95  
59  
Area 3 West (oxide)  
850  
1,300  
1.36  
100  
100  
105  
95  
95  
81  
Chipaka  
850  
1,300  
1.38  
100  
100  
105  
95  
95  
78  
Kukuluma (non-refractory ore)  
850  
1,300  
1.97  
100  
100  
105  
95  
95  
75  
Kukuluma (refractory ore)  
850  
1,300  
2.09  
100  
100  
105  
95  
95  
46  
Lone Cone  
850  
1,300  
1.07  
100  
100  
105  
95  
95

88

Matandani (non-refractory ore)

850

1,300

1.68

100

100

105

95

95

84

Matandani (refractory ore)

850

1,300

1.94

100

100

105

95

95

50

Nyankanga (open pit)

850

1,300

1.19

110

95

100

100

95

89

Ridge 8 (open pit)

850

1,300

1.40

100

100

105

95

95

82

Roberts

850

1,300

1.38

100

100

105

95

95

85

Star and Comet

850

1,300

1.41

100

100

110

91

95

85

Stockpile (full grade ore)

—

—

0.90

100

100

100

100

95

86

Stockpile (marginal ore)

—

—

1.28

100

100

100

100

95

86

Stockpile (refractory ore)

—

—

2.33

100

100

100

100

95

52

Geita Hill (open pit)

850

1,300

1.25

105

95

105

95

95

87

Geita

– surface (metric)

Tonnes above  
cut-off (millions)

0

9

Average grade

above cut-off (g/t)

5

4

3

80

70

60

50

40

30

20

10

0

16

14

12

10

8

6

4

2

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

6

8

7

2

1

Geita

– underground (metric)

Tonnes above

cut-off (millions)

0

9

Average grade

above cut-off (g/t)

5

4

3

60

50

40

30

20

10  
0  
14  
12  
10  
8  
6  
4  
2

Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off

6  
8  
7  
2  
1

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Australasia**

Australasia

**Australia**

**Western Australia**

Sunrise Dam

Tropicana

performance

**Solid**

operational

**P**

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**Regional overview**

AngloGold Ashanti's sole operating mine in Australasia is Sunrise Dam. The Company is also developing the new Tropicana gold mine in Western Australia, along with joint venture partner Independence Group Ltd., who hold a 30% stake. Tropicana, a greenfield discovery made by AngloGold Ashanti, is expected to deliver its first production in 2013. AngloGold Ashanti is managing that project along with a vast exploration programme in the area 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 declined by 1% to 396,000oz in 2010, equivalent to 8.7% of group production.

The Mineral Resource for Australasia, attributable to AngloGold Ashanti, totalled 7.05Moz at year-end, including an attributable

Ore Reserve of 3.74Moz.

All Mineral Resources and Ore Reserves listed are attributable unless otherwise stated.

**Mineral Resource by region**

Tonnes

Grade

Contained gold

as at 31 December 2010

Category

million

g/t

Tonnes

Moz

Australasia Region

Measured

34.88

1.74

60.55

1.95

Indicated

35.49

2.85

101.12

3.25

Inferred

19.84

2.90

57.63

1.85

Total

90.21

2.43

219.30

7.05

**Ore Reserve by region**

Tonnes

Grade



Contained gold  
as at 31 December 2010

Category

million

g/t

Tonnes

Moz

Australasia Region

Proved

24.05

2.10

50.45

1.62

Probable

23.39

2.81

65.83

2.12

Total

47.44

2.45

116.28

3.74

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**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 project.

AngloGold Ashanti owns 100% of Sunrise Dam gold mine. The Tropicana project is a joint venture with Independence Group NL in which AngloGold Ashanti Australia Limited (AGAA) 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**

Open-pit estimates are generated using a geostatistical method called multiple indicator kriging. All available geological drill-hole information is validated for use in the models and the local geology of the orebody 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 high-grade outliers. If these values are anomalous to the general population characteristics then they are cut back to the appropriate upper limit of 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 the upper limit of the population. A geostatistical method called ordinary kriging is used to produce estimates of a pre-determined block size. These block sizes are 10m x 10m and 20m x 20m. The geostatistical technique of conditional simulation has been used to estimate the Cosmo ore zone.

**Tropicana**

The geostatistical method of uniform conditioning is used to estimate the Mineral Resource. All available geological drill-hole information is validated for use in the models and the local geology of the orebody 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 high-grade outliers. If these values are anomalous to the general population characteristics, then they are cut back to the appropriate upper limit of the population.

**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) and reflects the selectivity or SMU of the mining equipment that is intended to be used to recover the Mineral Resource within the Ore Reserve pit design.  
Australia

**P**

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Australia

**Sunrise Dam**

**Location**

Sunrise Dam lies some 220km north-north-east of Kalgoorlie and 55km south of Laverton in Western Australia. The mine, 100%

owned by AngloGold Ashanti, comprises an open-pit operation and an underground operation. Mining is carried out by contractors

and ore is treated in a conventional gravity and leach process plant. The mining of the open pit has reached its final depth and only

a small north wall cutback is now in operation.

**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, namely:

- shear-related and high strain – e.g. Sunrise Shear Zone;
- stock work 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 focussed on a two-stage strategy of developing and advancing proximal

opportunities for the open pit and underground operations, whilst determining long-term opportunities that exist up to 1.5km below

the mine.

The focus for 2011 continues to be the increase of the Mineral Resource for the underground project. This will entail specific deep

drilling programmes of up to 2km vertical depth. These drill-holes will determine the extent of the main mineralising shoots of Cosmo,

Dolly and Midway Shear.

In 2011 near-mine exploration will continue, aimed at growing the Mineral Resource. The tenement areas have increased to in excess

of 300km<sup>2</sup> and contain strategic and highly prospective targets with areas of known mineralisation within the central Laverton

Greenstone Belt. High-quality targets have also been located immediately proximal to and below the mine area. Open pit, satellite

opportunities have been investigated in 2010 and extensions to these will continue to be investigated throughout 2011. The mineralisation at the Golden Delicious and Neville projects has proven that additional mineralisation sources away from the mega pit exist and that further investigation is warranted. In addition to projects within the owned tenure, strategic joint ventures continue to be developed. These opportunities, coupled with world-class, cutting edge geological research and development initiatives support a well developed strategy that will provide the best opportunity to successfully develop a strong and diverse project portfolio.

**P****140****AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Australasia – Sunrise Dam**

Australia

**Sunrise Dam****Projects**

The underground LOM project seeks to delineate deep Mineral Resources below the mine area. The extensions of the current

orebodies can be traced to depths in excess of 1.2km vertical and extend over a strike length of 2.5km. This, in addition to the satellite

underground and open pit opportunities, forms the framework for the LOM at Sunrise Dam.

During 2010 a detailed project charter was established to assess the viability of utilising the sub-level caving mining method in the

GQ and Dolly orebodies in the underground mine area.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Sunrise Dam

Category

million

g/t

Tonnes

Moz

Golden Delicious

Measured

–

–

–

–

Indicated 2.48

1.52

3.76

0.12

Inferred 0.25

1.68

0.42

0.01

Total 2.73

1.53

4.18

0.13

North Wall Cutback

Measured

0.77

1.82

1.41

0.05

Indicated 2.25

2.44	
5.49	
0.18	
Inferred	0.01
1.48	
0.02	
0.00	
Total	3.03
2.28	
6.92	
0.22	
Stockpile (open pit)	
Measured	
15.86	
1.18	
18.77	
0.60	
Indicated	—
—	
—	
—	
Inferred	—
—	
—	
Total	15.86
1.18	
18.77	
0.60	
Underground	
Measured	—
—	
—	
—	
Indicated	10.59
4.79	
50.78	
1.63	
Inferred	4.29
5.28	
22.66	
0.73	
Total	
14.88	
4.93	
73.44	2.36
Stockpile (underground)	
Measured	
0.18	
5.98	
1.08	

0.03	
Indicated	—
—	
—	
—	
Inferred	—
—	
—	
—	
Total	0.18
5.98	
1.08	
0.03	
Sunrise Dam	
Total	
36.68	
2.85	
104.38	
3.36	



**P****141****Exclusive Mineral Resource**

The Exclusive Mineral Resource includes Inferred Mineral Resource and low-grade stockpiles that do not currently meet the

Ore Reserve cut-off grade requirements.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Sunrise Dam

Category

million

g/t

Tonnes

Moz

Measured	9.62
----------	------

0.93

8.96

0.29

Indicated	8.63
-----------	------

3.42

29.49

0.95

Inferred	4.55
----------	------

5.08

23.10

0.74

Sunrise Dam

Total

22.80

2.70

61.55

1.98

Basalt and Dolerite Sills

BIF-dominated sediments

Volcanic Conglomerate

Mega porphyritic Syenite

Turbidite Beds (no BIF)

Andesite lavas and domes

Felsic Porphyry Dykes

Breccia Lodes

Major Shear Zones

Granite

**Legend**

Carey SZ

Western

Shear Zone

Midway SZ

CUSZ

Hammerhead SZ

*Dolly*

*Dolly*

*Deeps*

*Hammerhead*

*Watu*

GQ

GQ 2

Mako 1

Mako 2

Sunrise SZ

*Cross-section of SDGM*

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Australasia – Sunrise Dam**

Australia

**Sunrise Dam**

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Sunrise Dam

Category

million

g/t

Tonnes

Moz

North Wall Cutback

Proved

0.61

2.08

1.28

0.04

Probable

1.87

2.78

5.19

0.17

Total

2.48

2.60

6.47

0.21

Stockpile (open pit)

Proved

6.40

1.55

9.94

0.32

Probable

–

–

–

–

Total

6.40

1.55

9.94

0.32

Underground

Proved

–

–

–

–

Probable

4.82	5.26	
25.34	0.81	
Total		4.82
5.26		
25.34		
0.81		
Stockpile (underground)		
Proved		
0.18		
5.98		
1.08		
0.03		
Probable		—
—		
—		
—		
Total		0.18
5.98		
1.08		
0.03		
Sunrise Dam		
Total		
13.89		
3.08		
42.83		
1.38		

**Inferred Mineral Resource in business plan**

Inferred material is included in the pit optimisation, but makes up only a small proportion (<1%) of the total Mineral Resource ounces.

Sunrise Dam:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

3.65
3.60
3.55
3.50
3.45
3.40
3.35
3.30
3.25
Change
3.62
2009
-0.36
Depletion
0.04
Gold
price
0.02

Explo-  
 ration  
 0.03  
 Metho-  
 dology  
 3.36  
 2010  
 -0.01  
 Cost  
 0.02  
 Other  
 Sunrise Dam:  
 Ore Reserve reconciliation  
 2009 vs 2010  
 Ounces (millions)  
 1.75  
 1.70  
 1.65  
 1.60  
 1.55  
 1.50  
 1.45  
 1.40  
 1.35  
 1.30  
 Change  
 1.73  
 2009  
 -0.39  
 Depletion  
 0.11  
 Model  
 change  
 0.00  
 New  
 ounces  
 from  
 projects  
 -0.13  
 Scope  
 change  
 1.38  
 2010  
 0.00  
 Change in  
 Economics  
 0.06  
 Other

**P**

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**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

% RRF

% RRF

% MRF

% MRF

Gold

change

value

Dilution (based on

(based (based on

(based

Sunrise Dam – Surface price

rate

g/t Au

(%)

tonnes)

on g/t)

tonnes)

on g/t)

MCF% MetRF%

Surface – North Wall

Cutback

850

0.84

0.90

–

–

–

–

–

–

85.50

Surface – Stockpile

(open pit)

850

0.84

0.90

–

–

–

–

–

–

85.50

as at 31 December 2010

Ex-

Cut-off  
 Stopping  
 Sunrise Dam –  
 Gold  
 change  
 value  
 width  
 Dilution  
 Dilution  
 Underground  
 price  
 rate  
 g/t Au  
 (cm)  
 (%)  
 (g/t)  
 MCF% MetRF%  
 Stockpile (underground)  
 850  
 0.84  
 2.68  
 1,250  
 28  
 –  
 100  
 86.00  
 Underground  
 850  
 0.84  
 2.68  
 1,250 28 –  
 100  
 86.00

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Australasia – Sunrise Dam**

Australia

**Sunrise Dam**

Sunrise Dam

– surface (metric)

Tonnes above

cut-off (millions)

0.0

2.5

Average grade

above cut-off (g/t)

30

25

20

15

10

5

0

5.5

5.0

4.5

4.0

3.5

3.0

2.5

2.0

1.5

1.0

0.5

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

1.5

2.0

1.0

3.0

0.5

Sunrise Dam

– underground (metric)

Tonnes above

cut-off (millions)

0

12

Average grade

above cut-off (g/t)

16

14

12



10  
8  
6  
4  
2  
0  
24  
22  
20  
18  
16  
14  
12  
10  
8  
6  
4  
Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off  
8  
10  
6  
14  
4  
2

**Competent persons**

Professional  
Registration  
Relevant  
Category  
Type  
Name  
organisation  
number  
experience  
Surface  
Mineral Resource  
John Carswell  
AusIMM  
106181  
17 years  
Ore Reserve  
Salih Ramazan  
AusIMM  
222870  
9 years  
Underground  
Mineral Resource  
John Carswell  
AusIMM

106181  
17 years  
Ore Reserve  
Steve Tombs  
AusIMM  
105785  
30 years

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Australia

**Tropicana**

**Location**

The Tropicana gold project is located 330km east-north-east 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 and Boston Shaker deposits define a north-east trending mineralised corridor approximately

1.2km wide and 5km long that has been tested to vertical depth of over 1,000m. The Mineral Resource remains open down-dip for

the Tropicana, Havana and Boston Shaker deposits and to the south of the Havana deposit. Neither the immediate metamorphic

host rocks nor the mineralised zones are exposed at surface due to the presence of widespread cover sequences, which tend to be

between 0.5 and 15m thick.

**Geology**

The Tropicana deposit comprises a main ore zone up to 50m thick, dominantly hosted in quartzo-feldspathic gneiss, with subordinate

thin (3 to 5m), discontinuous mineralised lenses that typically return intercepts of >0.5g/t gold, hosted within the 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 central and southern parts of the proposed pit, by stacked, typically lower-grade and thinner (up to 25m thick) ore zones

dominantly hosted in quartzo-feldspathic gneiss.

Mineralisation within the ore zones is accompanied by 2% to 8% pyrite with accessory pyrrhotite, chalcopyrite, electrum and minor

other sulphides and tellurides. The gold mineralisation is related to shear planes that post-date the main gneissic fabric developed

during peak granulite-facies metamorphism.

**Exploration**

The Tropicana joint venture has assembled a dominant land-holding 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 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 (more than 60km

from Tropicana), near resource targets (less 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 2011 can be summarised as follows:

- defining additional higher value ounces to maximise the value of the Tropicana gold project;
- identifying the potential scale of underground Mineral Resource at Havana Deeps that can complement planned open pit mining and extend the mine life; and
- progressing exploration in the wider Tropicana Belt to leverage the value that may be unlocked at a province scale with the objective of making further greenfields discoveries.

**Projects**

The Boston Shaker zone is currently the focus of a feasibility study, due for completion in mid-2011, which will define material amenable to open pit mining in the early phase of Tropicana's mine life.

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Australia

**Tropicana**

Havana Deeps is the focus of a pre-feasibility study into the viability of underground mining of the down-plunge extension of the

Havana mineralisation. The pre-feasibility study is due for completion in 2012.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Tropicana

Category

million

g/t

Tonnes

Moz

Surface

Measured 18.06

2.18

39.29

1.26

Indicated 20.17

2.04

41.09

1.32

Inferred 11.56

1.81

20.91

0.67

Total 49.79

2.03

101.29

3.26

Underground

Measured –

–

–

–

Indicated –

–

–

Inferred 3.73

3.65

13.63

0.44

Total 3.73

3.65  
 13.63  
 0.44  
 Tropicana  
 Total 53.53  
 2.15  
 114.92  
 3.69

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Tropicana

Measured

25 x 25

-

-

Indicated

50 x 50

-

-

Inferred

50 x 100, and

-

-

100 x 100

-

-

**Exclusive Mineral Resource**

The Exclusive Mineral Resource includes Inferred Mineral Resource material in the Havana South pit and at depth in the Havana and

Tropicana pits. It also includes the Boston Shaker zone and Havana Deeps, which are not yet drilled to a level of confidence to

establish an Ore Reserve.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Tropicana

Category

million

g/t

Tonnes

Moz	
Measured	1.21
0.94	
1.14	
0.04	
Indicated	3.47
1.67	
5.80	
0.19	
Inferred	15.30
2.26	
34.53	
1.11	
Tropicana	
Total	19.98
2.08	
41.47	
1.33	

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**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Tropicana

Category

million

g/t

Tonnes

Moz

Underground

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

3.73

3.65

13.63

0.44

Tropicana

Total

3.73

3.65

13.63

0.44



**P****148****AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Australasia – Tropicana**

Australia

**Tropicana****Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Tropicana

Category

million

g/t

Tonnes

Moz

Surface

Proved

16.85

2.26

38.16

1.23

Probable

16.70

2.11

35.29

1.13

Tropicana

Total

33.55

2.19

73.45

2.36

**Inferred Mineral Resource in business plan**

Inferred material resource is included in the pit optimisation process, but makes up only a small proportion (less than 15%) of the total

mining inventory. Further drilling will increase the confidence in the estimation of this material with a view to convert the Inferred Mineral

Resource into an Ore Reserve in the near future.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Tropicana

million

g/t

Tonnes

Moz

Comments

Surface

7.12

1.34

9.58  
 0.31  
 Inferred Mineral Resource in the Tropicana  
 bankable feasibility study LOM schedule  
 Total  
 7.12  
 1.34  
 9.58  
 0.31

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-  
 Cut-off  
 % RRF  
 % RRF  
 % MRF  
 % MRF  
 Gold  
 change  
 value  
 Dilution (based on  
 (based (based on  
 (based  
 Tropicana  
 price  
 rate  
 g/t Au  
 (%)  
 tonnes)  
 on g/t)  
 tonnes)  
 on g/t)  
 MCF% MetRF%

Surface  
 880  
 0.80  
 0.70

-  
 -  
 -  
 -  
 -  
 -

90.30  
 Tropicana:  
 Mineral Resource reconciliation  
 2009 vs 2010  
 Ounces  
 (millions)  
 4.0  
 3.8

3.6  
3.4  
3.2  
3.0  
2.8  
Change  
3.51  
2009  
0.00  
Depletion  
0.00  
Gold  
price  
1.01  
Explo-  
ration  
-0.14  
Metho-  
dology  
3.70  
2010  
-0.69  
Cost  
0.00  
Other  
Tropicana:  
Ore Reserve reconciliation  
2009 vs 2010  
Ounces  
(millions)  
2.41  
2.40  
2.39  
2.38  
2.37  
2.36  
2.35  
2.34  
2.33  
2.32  
2.31  
Change  
2.31  
2009  
0.00  
Depletion  
0.04  
Model  
change  
0.00  
New

ounces  
from  
projects  
-0.03  
Scope  
change  
2.36  
2010  
0.05  
Change in  
Economics  
-0.01  
Other

**P**

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Tropicana

– surface (metric)

Tonnes above

cut-off (millions)

0

Average grade

above cut-off (g/t)

350

300

250

200

150

100

50

0

4.0

3.5

3.0

2.5

2.0

1.5

1.0

0.5

0.0

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

2.0

1.5

1.0

0.5

Tropicana

– underground (metric)

Tonnes above

cut-off (millions)

1.0

2.5

Average grade

above cut-off (g/t)

30

25

20

15

10

5

0

4.0

3.8

3.6

3.4  
3.2  
3.0  
2.8  
2.6  
2.4  
2.2  
2.0  
1.8

Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off

1.5  
2.0  
3.0

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Mark Kent

AusIMM

203631

13 years

Ore Reserve

Marek Janas

AusIMM

210148

19 years

**P**

**150**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas**

Americas

**United States**

Cripple Creek & Victor

**Brazil**

Serra Grande

AGA Mineração

**Argentina**

Cerro Vanguardia

Hard-won

in Brazil and Argentina

**cemented**

improvements

**P**

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**Regional overview**

AngloGold Ashanti has the Cripple Creek & Victor mine in the USA, the Cerro Vanguardia mine in Argentina and also the AngloGold

Ashanti Córrego do Sítio Mineração operation and the Serra Grande joint venture, both in Brazil. The Americas represents one of the

most important growth regions for AngloGold Ashanti.

Combined production from these operations increased by 3% to 842,000oz of gold in 2010.

The total Mineral Resource across the Americas, attributable to AngloGold Ashanti, was 43.87Moz at the end of 2010 and the

attributable Ore Reserve was 10.11Moz. 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 13.5Moz of the Americas’ Mineral Resource.

All Mineral Resources and Ore Reserves listed are attributable unless otherwise stated.

**Mineral Resource by region**

Tonnes

Grade

Contained gold

as at 31 December 2010

Category

million

g/t

Tonnes

Moz

Americas Region

Measured

305.34

1.01

309.82

9.96

Indicated

268.77

1.29

346.77

11.15

Inferred

534.68

1.32

707.99

22.76

Total

1,108.78

1.23

1,364.58

43.87

**Ore Reserve by region**

Tonnes

Grade



Contained gold  
as at 31 December 2010

Category

million

g/t

Tonnes

Moz

Americas Region

Proved

163.64

1.05

171.06

5.50

Probable

94.72

1.51

143.26

4.61

Total

258.36

1.22

314.32

10.11

**P**

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## **AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

### **Americas – Argentina**

Argentina

#### **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 Resources estimation**

The Mineral Resource estimates are computed using the relevant modules of the Datamine® software package. The geological model

is a critical part of the Mineral Resource estimation process. The orebody boundaries for each geological entity (veins, stock work,

wall rock) are defined from the detailed logging of all geological boreholes and after validation this information is used to create a three

dimensional model. This model is subsequently overlain with a 5 x 25 x 5m (X by Y by Z) 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 orebody are subsequently computed in the system using the relevant block dimensions.

Ordinary kriging is used to perform the grade interpolation. Field tests are conducted to determine appropriate in-situ densities.

Stochastic simulations are performed in the main orebodies for uncertainty assessment and the Mineral Resource is then classified

into the Measured, Indicated and Inferred Mineral Resource categories according to stringent rules.

#### **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. For the reserve optimisation, Whittle® software was used and Datamine® software was utilised to design the pits.

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. Mining is distributed between multiple

operating pits, typically three to five at any one time; depending on the plant feed requirements. 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. The average stripping ratio for

the remaining 10 years of mine life is 26:1.

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Argentina

**Cerro Vanguardia**

**Location**

Cerro Vanguardia is located in the Santa Cruz Province, Southern Argentina, approximately 130km north-north-west of the coastal town of San Julián. The mining lease encompasses an area of approximately 520km<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, the most extensive stratigraphic and structural

unit in Southern Argentina. The Deseado Massif consists of Palaeozoic 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 hosts a low sulphidation epithermal type gold and silver deposit. The true thickness of the ignimbrite

sequence is estimated to have exceeded 535m but some lateral thickness variations have been identified across the district.

Epithermal Au-Ag bearing structures cut across all units 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 base. These two ignimbrites are separated by two thinner, polymict 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

interspersed with fine-grained tuffs.

The mineralisation is concentrated in steeply dipping quartz veins that cut the flat lying ignimbrites and volcanoclastic rocks.

From 1991, when exploration began at Cerro Vanguardia, until 2010, a total of 106 mineralised veins or structures have been

discovered. The veins have a total lateral extent of 230km and 57 of these mineralised veins or structures have been included in the

Mineral Resource.

**Exploration**

The exploration programme in 2010 was focussed mainly in the central and southern portions of the Cerro Vanguardia mining lease

area. Both these areas have stratigraphy and vein orientations that are favourable for mineralisation. A total of 23,602m of DD and

27,596m of RC drilling was completed during the year. The veins that were drilled were Atila 2, Fortuna Este, Loma del Muerto,

Cuncuna, Lucy-Concepción Norte, El Lazo, Gésica, Paula 2, Liliana, Águila, Luciana 1 and Evelyn. The additional Mineral Resource

that was generated was separated into vein Mineral Resources and heap leach Mineral Resources.

**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 NPV. 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.

A feasibility study is currently being undertaken at Cerro Vanguardia that is intended to optimise the LOM through reduced stripping

ratios (from 26:1 to 16:1), thereby reducing mining costs per tonne of ore mined. Plans are also in place to convert to underground

mining in selected pits in order to maintain current production levels. The benefits of this optimisation are that, apart from reduced

cash costs and waste material generation, additional ounces may be mined due to increased access and selectivity. It will also enable

the mining of veins that are currently not mineable from open pits.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Americas – Cerro Vanguardia**

Argentina

**Cerro Vanguardia**

The underground mining proposed at Cerro Vanguardia will complement the current open-pit production. The tonnage from the open

pits will decrease to an average of 700,000t per year as the highest stripping ratio open pits are replaced with underground

operations. The underground mines are expected to increase their production to 300,000t per year. The only vein that is currently

being mined from underground is Mangas, but underground development is taking place at Osvaldo Cb4 and Osvaldo Cb9 and there

are several more projects in the pipeline, such as Cuncuna, Liliana, Zorro, Osvaldo Cb10 and Osvaldo Cb12.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Cerro Vanguardia

Category

million

g/t

Tonnes

Moz

Vein Resources (open pit)

Measured

1.33

6.70

8.89

0.29

Indicated

9.31

6.32

58.83

1.89

Inferred

4.86

5.49

26.64

0.86

Total

15.49

6.09

94.36

3.03

Heap leach

Measured

9.74

0.74

7.23

0.23

Indicated

10.28

0.62			
6.37			
0.20			
Inferred		5.09	
0.57			
2.91			
0.09			
Total		25.11	
0.66			
16.51			
0.53			
Vein Resources (underground)			
Measured			
0.06			
8.70			
0.50			
0.02			
Indicated		1.27	
11.46			
14.50			
0.47			
Inferred		0.25	
11.82			
2.99			
0.10			
Total			
1.58	11.42	17.99	0.58
Cerro Vanguardia			
Total			
42.18			
3.06			
128.87			
4.14			

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

Type of drilling  
 Mine/ Spacing  
 Blast-  
 Project  
 Category  
 m (- x -)  
 Diamond  
 RC  
 hole Other  
 Comments  
 Cerro Vanguardia  
 Measured  
 12.5 x 12.5  
 -  
 -  
 Indicated  
 40 x 40

-

-

Inferred

80 x 80

-

-

Grade control 5 x 10

-

-

**P****155****Exclusive Mineral Resource**

The Exclusive Mineral Resource is primarily located in the space generated between the pit design and the Mineral Resource shell

and is due to the difference in the economic parameters that have been used. In very 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 to Ore Reserve and is therefore listed as Exclusive

Mineral Resource.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Cerro Vanguardia

Category

million

g/t

Tonnes

Moz

Measured 1.36

3.61

4.91

0.16

Indicated 16.70

2.20

36.72

1.18

Inferred 9.95

2.97

29.56

0.95

Cerro Vanguardia

Total 28.01

2.54

71.18

2.29

**Mineral Resource by-product: Silver (Ag)**

as at 31 December 2010

Tonnes

Grade

Contained silver

Cerro Vanguardia

Category

million

g/t

Tonnes

Moz



Measured

11.12

25.56

284.26

9.14

Indicated

20.86

76.62

1,598.42

51.39

Inferred

10.20

79.76

813.38

26.15

Cerro Vanguardia

Total

42.18

63.92

2,696.06

86.68

Cerro Vanguardia:

Mineral Resource reconciliation

2009 vs 2010

Ounces

(millions)

4.20

4.15

4.10

4.05

4.00

3.95

3.90

3.85

3.80

3.75

3.70

3.65

Change

3.88

2009

-0.19

Depletion

0.00

Gold

price

0.49

Explo-

ration

-0.04

Metho-

dology  
4.14  
2010  
0.00  
Cost  
0.00  
Other  
Cerro Vanguardia:  
Ore Reserve reconciliation  
2009 vs 2010  
Ounces  
(millions)  
1.88  
1.86  
1.84  
1.82  
1.80  
1.78  
1.76  
1.74  
1.72  
1.70  
1.68  
Change  
1.88  
2009  
-0.19  
Depletion  
0.11  
Model  
change  
0.00  
New  
ounces  
from  
projects  
0.03  
Scope  
change  
1.84  
2010  
0.00  
Change in  
Economics  
0.01  
Other

P

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Americas – Cerro Vanguardia**

Argentina

**Cerro Vanguardia****Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Cerro Vanguardia

Category

million

g/t

Tonnes

Moz

Vein Resources (open pit)

Proved

0.62

6.75

4.17

0.13

Probable 4.60

6.54

30.10

0.97

Total 5.22

6.57

34.28

1.10

Heap leach

Proved

8.70

0.71

6.15

0.20

Probable 2.40

0.53

1.27

0.04

Total

11.11 0.67

7.43 0.24

Vein Resources (underground)

Proved

0.12

7.51

0.90

0.03

Probable 1.56

9.12	
14.24	
0.46	
Total	1.68
9.01	
15.14	
0.49	
Total stockpiles	
Proved	
0.10	
4.20	
0.40	
0.01	
Probable	—
—	
—	
—	
Total	0.10
4.20	
0.40	
0.01	
Cerro Vanguardia	
Total	
18.10	
3.16	
57.25	
1.84	

**Inferred Mineral Resource in business plan**

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 in-fill drilling. At Cerro Vanguardia a total of 185,000oz was not declared

as an Ore Reserve, and of this, 155,000oz are located in five pits.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Cerro Vanguardia

million

g/t

Tonnes

Moz

Comments

Vein Resources (open pit)

1.27

5.15

6.52

0.21

Represents 18% of open pit schedule

CVSA – Heap leach

1.56

0.46

0.72

0.02

Represents 13% of heap leach schedule

Vein Resources (underground)

0.38

8.26

3.18

0.10

Represents 16% of underground schedule

Total

3.21

3.24

10.41

0.33

**P**

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Cerro Vanguardia

– surface (metric)

Tonnes above

cut-off (millions)

0

10

Average grade

above cut-off (g/t)

2

16

14

12

10

8

6

4

2

18

16

14

12

10

8

6

4

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

4

8

6

Cerro Vanguardia

– underground (metric)

Tonnes above

cut-off (millions)

0

20

Average grade

above cut-off (g/t)

5

1.6

1.4

1.2

1.0

0.8

0.6

0.4

0.2

0

30  
 28  
 26  
 24  
 22  
 20  
 18  
 16  
 14  
 12  
 10  
 Cut-off grade (g/t)  
 Tonnes above cut-off  
 Ave grade above cut-off  
 15  
 10

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-  
 Cut-off  
 % MRF  
 % MRF  
 Gold  
 change  
 value  
 Dilution (based on  
 (based  
 Cerro Vanguardia  
 price  
 rate  
 g/t Au  
 (%)  
 tonnes)  
 on g/t)  
 MCF% MetRF%  
 Heap leach  
 850  
 4.00  
 0.35

–  
 –  
 –  
 –  
 –

Vein Resources (open pit)  
 850  
 4.00  
 2.26  
 45  
 97  
 96

93

95

Vein Resources (underground)

850

4.00

–

15

97

96

93

95

**Ore Reserve by-product: Silver (Ag)**

as at 31 December 2010

Tonnes

Grade

Contained silver

Cerro Vanguardia

Category

million

g/t

Tonnes

Moz

Proved

9.54

22.40

213.62

6.87

Probable

8.57

100.82

864.00

27.78

Cerro Vanguardia

Total

18.10

59.52

1,077.62

34.65

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Cesar Riveros

AusIMM

304416



25 years

Ore Reserve

Jorge Sanguin

AusIMM\*

20 years

\*

*Application for membership has been submitted*

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – Brazil**

Brazil

**Country overview**

AngloGold Ashanti's operations in Brazil comprise the wholly-owned AngloGold Ashanti Brazil Mineração (formerly Morro Velho

assets) and a 50% interest in Mineração Serra Grande.

**Mineral Resources estimation**

The Mineral Resource Estimation is updated as part of the annual evaluation process. The geostatistical method used for estimation

is ordinary kriging using the lithology as the indicator. The Cuiabá mine dataset consists of channel samples and drill-hole samples.

The 3D modelling and estimation is done with two domains: the thick orebodies, comprised by the Fonte Grande Sul and Serrotinho

orebodies and the narrow vein domain of the Balancão, Galinheiro and Canta Galo orebodies. All channel and drill-hole samples are

used in the 3D geological models and the lithological maps of the orebodies are used to identify the rock types. A simulation technique

is used to determine the uncertainty in the orebody block-models. SGS (Sequential Gaussian Simulation) and SIS (Sequential

Indicator Simulation) methods are used to simulate the rock types (SIS) and the grade (SGS) combining the results in an

uncertainty analysis.

Raposos and Morro da Glória are estimated as the polygonal estimates (considering a weighted average of the samples over two

drilled or open panels and an average is applied for the lower panels where no drilling information is available). Both Raposos and

Morro da Glória have the information captured into datasets and preliminary estimation exercises confirm the current numbers in the

statement (Raposos by uniform conditioning method and Morro da Glória by ordinary kriging). Luzia da Motta estimates come from

ordinary kriging estimates for each target based on the available surface drilling which has a minimum pattern of 100 x 100m.

**Ore Reserve estimation**

The gold price and operational costs are taken into consideration in determining the Ore Reserve. The Ore Reserve is scheduled and

designed using Mine2-4D® computer software. Mining parameters such as the mining method, minimum mining width, MCF, dilution

and recovery are all applied in the process.

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Brazil

**AGA Mineraçao**

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. It is located within

the mining district referred to as the Iron Quadrangle (Quadrilátero Ferrífero) and this area hosts numerous historic and current gold

mining operations, as well as a number of 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 São Bento.

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 feasibility study on the Nova

Lima Sul Project, which involves the restart of the mothballed Raposos mine, is being prepared for submission to the board in mid

2011. All these operations are primarily gold mines, but sulphur (for the production of sulphuric acid) is a by-product of the Cuiabá

mining operation.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

AGA Mineração

Category

million

g/t

Tonnes

Moz

Measured

8.79

7.10

62.38

2.01

Indicated

13.68

6.33

86.55

2.78

Inferred

28.52

6.95

198.35

6.38

AGA Mineração

Total

50.99

6.81

347.29

11.17

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

AGA Mineração

Category

million

g/t

Tonnes

Moz

Measured

6.30

6.17

38.87

1.25

Indicated

8.13

6.17

50.12

1.61

Inferred

26.34

6.87

181.10

5.82

AGA Mineração

Total

40.77

6.63

270.09

8.68

**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

AGA Mineração

Category

million

g/t

Tonnes

Moz

Measured

1.05

4.60

4.82  
0.15  
Indicated  
7.59  
6.33  
48.09  
1.55  
Inferred  
23.50  
7.33  
172.11  
5.53  
AGA Mineração  
Total  
32.13  
7.00  
225.02  
7.23

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – AGA Mineração**

**Mineral Resource by-product: Sulphur (S)**

as at 31 December 2010

Tonnes

Grade

Sulphur

Pounds

AGA Mineração

Category

Mt

%S

Mt

million

Measured

6.19

6.9

0.42

937

Indicated

6.39

6.3

0.40

881

Inferred

14.46

7.0

1.01

2,232

AGA Mineração

Total

27.05

6.8

1.84

4,050

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

AGA Mineração

Category

million

g/t

Tonnes

Moz

Proved

4.94

6.74

33.34

1.07

Probable

6.08

5.50

33.41

1.07

AGA Mineração

Total

11.02

6.06

66.76

2.15

**Inferred Mineral Resource in business plan**

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

AGA Mineração

million

g/t

Tonnes

Moz

Comments

CdS I (oxides)

0.17

3.21

0.53

0.02

Inferred Mineral Resource in business plan

Lamego (Cabeça de Pedra)

0.43

3.88

1.65

0.05

Lamego (Carruagem)

0.50

5.33

2.69

0.09

Cuiabá (main orebodies)

0.33

6.31

2.08

0.07

Part of orebody FGS level 15 and orebody

SER levels 14 and 15

Cuiabá (narrow veins)

0.33

5.53

1.80  
 0.06  
 Part of orebodies BAL and GAL levels 12 and 13  
 CdS I (Cachorro Bravo)  
 1.58  
 6.78  
 10.74  
 0.35  
 There are no Ore Reserves in secondary areas  
 CdS I (Laranjeiras)  
 2.15  
 6.16  
 13.23  
 0.43  
 This includes Inferred Mineral Resources from  
 Carvoaria and Cachorro Bravo  
 Total  
 5.48  
 5.97  
 32.73  
 1.05  
 Brazil  
**AGA Mineração**  
 AGA Mineração:  
 Mineral Resource reconciliation  
 2009 vs 2010  
 Ounces  
 (millions)  
 11.2  
 11.1  
 11.0  
 10.9  
 10.8  
 10.7  
 10.6  
 10.5  
 10.4  
 Change  
 10.88  
 2009  
 -0.41  
 Depletion  
 -0.05  
 Gold  
 price  
 0.60  
 Explo-  
 ration  
 -0.03  
 Metho-  
 dology



11.17  
 2010  
 0.00  
 Cost  
 0.17  
 Other  
 AGA Mineração:  
 Ore Reserve reconciliation  
 2009 vs 2010  
 Ounces  
 (millions)  
 2.20  
 2.15  
 2.10  
 2.05  
 2.00  
 1.95  
 1.90  
 1.85  
 1.80  
 Change  
 2.18  
 2009  
 -0.36  
 Depletion  
 0.09  
 Model  
 change  
 0.00  
 New  
 ounces  
 from  
 projects  
 -0.01  
 Scope  
 change  
 2.15  
 2010  
 -0.02  
 Change in  
 Economics  
 0.26  
 Other

**P**

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**Ore Reserve below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

AGA Mineração

Category

million

g/t

Tonnes

Moz

Proved

0.49

6.40

3.15

0.10

Probable

2.72

5.82

15.86

0.51

AGA Mineração

Total

3.21

5.91

19.01

0.61

**Ore Reserve by-product: Sulphur (S)**

as at 31 December 2010

Tonnes

Grade

Sulphur

Pounds

AGA Mineração

Category

Mt

%S

Mt

million

Proved

4.18

5.7

0.24

527

Probable

4.04

5.1

0.20

451

AGA Mineração

Total

8.22

5.4

0.44

978

AGA Mineração

– surface (metric)

Tonnes above

cut-off (millions)

0

14

Average grade

above cut-off (g/t)

2

5.0

4.5

4.0

3.5

3.0

2.5

2.0

1.5

1.0

0.5

0

18

16

14

12

10

8

6

4

2

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

6

10

8

4

12

AGA Mineração

– underground (metric)

Tonnes above

cut-off (millions)

0

20

Average grade

above cut-off (g/t)

50  
45  
40  
35  
30  
25  
20  
15  
10  
5  
0  
26  
24  
22  
20  
18  
16  
14  
12  
10  
8  
6  
Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off  
10  
15  
5

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – AGA Mineração – Córrego do Sítio**

Brazil

**AGA Mineração – Córrego do Sítio**

**Location**

Córrego do Sítio 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 whilst the northern portion (formerly known as São Bento) has been re-named Córrego do Sítio II.

**Geology**

Córrego do Sítio is located in the eastern part of the lower to middle greenschist facies Archaean Rio das Velhas greenstone belt.

The Córrego do Sítio I and Córrego do Sítio II gold deposits and targets are located in a gold trend that extends for about 11.5km in

a north-easterly direction, from Grota Funda (CdS I areas) in the south to Jambeiro (São Bento/CdS II areas) in the north. The main

gold targets and deposits are distributed over three trends, namely the Córrego do Sítio trend, the Donana Trend and the

Cristina Trend.

The Córrego do Sítio orebodies consist of narrow north-east/south-west elongated lenses of mineralisation dipping at 20° to 30°.

Córrego do Sítio is an orogenic type deposit and comprises many hydrothermal lodes with quartz veins and low sulphide content

disseminated in the wall rocks. The mineralised orebodies are narrow, elongated and folded. In general, the mineralised orebodies

are sericitic zones and quartz veinlets. The gold occurs as microscopic or sub-microscopic inclusions in arsenopyrite and sometime

berthierite. Other typical sulphide minerals in the orebodies are pyrrhotite, pyrite and chalcopyrite.

**Exploration**

Exploration started at the site in the 1980s and focussed mainly on the oxides. The sulphide potential has been better appreciated

since the start of the excavation of the underground exploration ramp in 2002. An extensive drilling campaign has been conducted,

aiming to add and convert Mineral Resource from three sets of orebodies known as Cachorro Bravo, Laranjeiras, and Carvoaria.

To date, over 21km of underground development has provided access and better understanding of these sets of orebodies.

Exploration of further targets is continuous, mainly by means of soil and channel samples, mapping and drilling.

**Projects**

The main projects at Córrego do Sítio are geared towards Mineral Resource conversion. Córrego do Sítio currently has 411,000oz of

Probable and Proved Ore Reserve. This value represents around 38% of the 1.1Moz of Mineral Resource declared in 2009, and

around 19% of the 2.1Moz of the current Mineral Resource. In 2010 a total of 60,000oz of additional Mineral Resource was added,

mainly from the Laranjeiras and Carvoaria orebodies. The strategy to convert the additional 664,000oz of Inferred Mineral Resource

to Indicated Mineral Resource is based on a large drilling programme of around 69,000m, to be drilled from 2010 to 2014 at Cachorro

Bravo, Laranjeiras and Carvoaria Velha orebodies. For 2011, the immediate strategy is to add Ore Reserve at panel 4 of the Cachorro

Bravo orebody system.

**P****163****Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Córrego do Sítio

Category

million

g/t

Tonnes

Moz

CdS I (Cachorro Bravo)

Measured

0.86

8.31

7.15

0.23

Indicated

1.37

7.27

9.93

0.32

Inferred

0.62

7.61

4.73

0.15

Total

2.85

7.66

21.81

0.70

CdS I (Carvoaria)

Measured

-

-

-

-

Indicated

0.58

10.18

5.95

0.19

Inferred

0.64

8.50

5.41

0.17

Total

1.22

9.30

11.36

0.37

CdS I (secondary orebodies)

Measured

0.00				
10.70				
0.05				
0.00				
Indicated		0.50		
5.29				
2.64				
0.08				
Inferred		0.93		
5.11				
4.76				
0.15				
Total		1.43		
5.19				
7.44				
0.24				
CdS I (Laranjeiras)				
Measured				
—				
—				
—				
—				
Indicated		2.22		
6.00				
13.34				
0.43				
Inferred		2.22		
7.73				
17.17				
0.55				
Total		4.45		
6.86				
30.51				
0.98				
CdS I (transitional)				
Measured				
0.05				
6.93				
0.37				
0.01				
Indicated				
0.53	7.43		3.94	0.13
Inferred		0.22		
6.62				
1.49				
0.05				
Total		0.81		
7.17				
5.80				
0.19				
CdS I (oxides)				



Measured	
0.99	
4.81	
4.78	
0.15	
Indicated	0.84
5.19	
4.37	
0.14	
Inferred	1.26
3.94	
4.96	
0.16	
Total	3.09
4.56	
14.11	
0.45	
CdS II (Pinta Bem)	
Measured	
–	
–	
–	
–	
Indicated	–
–	
–	
–	
Inferred	0.16
4.88	
0.77	
0.02	
Total	0.16
4.88	
0.77	
0.02	

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## AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010

Americas – AGA Mineração – Córrego do Sítio

Brazil

AGA Mineração – Córrego do Sítio

Mineral Resource continued

as at 31 December 2010

Tonnes

Grade

Contained gold

Córrego do Sítio

Category

million

g/t

Tonnes

Moz

CdS II (Sangue de Boi)

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

1.39

5.89

8.18

0.26

Total

1.39

5.89

8.18

0.26

CdS II (São Bento mine)

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

2.04

8.00

16.32

0.52

Total

2.04

8.00

16.32	
0.52	
CdS II (secondary orebodies)	
Measured	
—	
—	
—	
—	
Indicated	0.02
4.60	
0.08	
—	
Inferred	0.19
4.89	
0.95	
0.03	
Total	0.21
4.87	
1.03	
0.03	
CdS II (transitional)	
Measured	
—	
—	
—	
—	
Indicated	0.02
5.52	
0.13	
0.00	
Inferred	0.09
3.30	
0.30	
0.01	
Total	0.12
3.77	
0.43	
0.01	
CdS II (oxides)	
Measured	
—	
—	
—	
—	
Indicated	0.20
3.37	
0.67	
0.02	
Inferred	0.27
5.88	
1.60	

0.05  
 Total 0.47

4.82  
 2.27  
 0.07  
 Córrego do Sítio

Total  
 18.24  
 6.58  
 120.04  
 3.86

**Exclusive Mineral Resource**

The Exclusive Mineral Resource includes all of the Córrego do Sítio II areas. It also includes the Cachorro Bravo, Laranjeiras and Carvoaria underground orebodies, where there is no accessible underground development. The Inferred Mineral Resource that has been included in the pit shells of the oxidised orebodies is also part of the Exclusive Mineral Resource.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Córrego do Sítio

Category

million

g/t

Tonnes

Moz

Measured 3.60

6.12

22.00

0.71

Indicated 4.73

6.44

30.45

0.98

Inferred 8.75

6.20

54.24

1.74

Córrego do Sítio

Total

17.08

6.25

106.68

3.43

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**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Córrego do Sítio

Category

million

g/t

Tonnes

Moz

Measured

0.05

6.93

0.37

0.01

Indicated

2.40

7.41

17.78

0.57

Inferred

6.68

7.47

49.88

1.60

Córrego do Sítio

Total

9.13

7.45

68.03

2.19

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Córrego do Sítio

Category

million

g/t

Tonnes

Moz

CdS I (oxides)

Proved

0.40

3.22

1.27

0.04

Probable

0.31

2.97

0.93

0.03

Total

0.71

3.11

2.20

0.07

CdS I (Cachorro Bravo)

Proved

0.37

6.42

2.37

0.08

Probable

1.14

5.54

6.31

0.20

Total

1.51

5.76

8.68

0.28

CdS I (Laranjeiras)

Proved

—

—

—

—

Probable

0.59

5.06

2.98

0.10

Total

0.59

5.06

2.98

0.10

Córrego do Sítio

Total

2.80

4.94

13.87

0.45

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – AGA Mineração – Córrego do Sítio**

Brazil

**AGA Mineração – Córrego do Sítio**

**Inferred Mineral Resource in business plan**

The Inferred Mineral Resource that has been included in the mine design is the mining panels in the lower areas of some sulphide

orebodies such as Cachorro Bravo, Laranjeiras and Carvoaria orebodies low panes. Some of the new orebodies are also included in

this category.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Córrego do Sítio

million

g/t

Tonnes

Moz

Comments

CdS I (oxides)

0.17

3.21

0.53

0.02

Inferred Mineral Resource included in business plan

CdS I (Cachorro Bravo)

1.58

6.78

10.74

0.35

Inferred Mineral Resource included

CdS I (Laranjeiras)

2.15

6.16

13.23

0.43

Total

3.90

6.29

24.50

0.78

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

Stoping

Gold  
change  
value  
width  
Dilution  
Dilution  
Córrego do Sítio  
price  
rate  
g/t Au  
(cm)  
(%)  
(g/t)  
MCF%    MetRF%

CdS I oxides

850

1.85

1.06

–

28

0.20

92

88.00

CdS I sulphides

850

1.93

3.92

220

29

–

95

88.98

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Paulo de Tarso Ferreira

AusIMM

224828

25 years

Ore Reserve

Marcos Geraldo Simoni

AusIMM

224826

18 years



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Brazil

**AGA Mineração – Cuiabá**

**Location**

Cuiabá is located near Sabará, south-east of the city of Belo Horizonte and within the mining district referred to as the Iron

Quadrilateral.

**Geology**

Cuiabá mine has gold mineralisation associated with sulphides and quartz veins in Banded Iron Formation (BIF) and volcanic

sequences. The ore appears strongly stratiform due to the selective sulphidation of the iron-rich layers. Steeply plunging shear zones

tend to control the ore shoots, which commonly plunge parallel to intersections between the shears and other structures. The

controlling mineralisation structures are the apparent intersection of thrust faults with tight isoclinal folds in a ductile environment. The

host rocks are BIF and secondarily in mafic volcanics (mainly basaltic). Mineralisation is believed 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 orebodies are Cuiabá are as follows:

- normal limb: Fonte Grande Sul and Serrotinho; and
- overturned limb: Balancão, Galinheiro and Canta Galo.

**Exploration**

The Cuiabá mine has four satellites orebodies: Surucucu, Dom Domingos, Galinheiro-FW and Viana. The first two orebodies are

located in the BIF structure and the other two in a schists in the footwall and hangingwall respectively. During 2010 a drilling

programme proved that the mineralisation at the Serrotinho orebody extended towards the Surucucu orebody. A budget for 2011

has been approved to drill out the Dom Domingos orebody between levels 15 to 16 to identify extensions to the mineralisation.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Americas – AGA Mineração – Cuiabá**

Brazil

**AGA Mineração – Cuiabá****Projects**

A conceptual study of the Cuiabá future mine began in 2009. The strategy is to optimise future Cuiabá production and to exploit the narrow vein orebodies before the end of the mine life. The main focus is on alternative underground transport logistics for ore or waste, alternative mining methods, simulations for optimised ventilation and other studies.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Cuiabá

Category

million

g/t

Tonnes

Moz

Cuiabá (main orebodies)

Measured

2.85

9.57

27.23

0.88

Indicated

0.81                    10.10

8.21

0.26

Inferred                                    6.01

9.84

59.17

1.90

Total                                        9.67

9.78

94.61

3.04

Cuiabá (narrow veins)

Measured

2.14

6.15

13.15

0.42

Indicated                                    2.86

5.43

15.52

0.50

Inferred	4.87
5.99	
29.19	
0.94	
Total	9.87
5.86	
57.86	
1.86	
Cuiabá (secondary areas)	
Measured	
0.84	
6.10	
5.13	
0.16	
Indicated	0.17
6.78	
1.15	
0.04	
Inferred	0.32
6.08	
1.92	
0.06	
Total	1.33
6.18	
8.19	
0.26	
Cuiabá	
Total	20.87
7.70	
160.66	
5.17	

**Exclusive Mineral Resource**

At Cuiabá the main Exclusive Mineral Resource (0.32Moz) comes from the current production orebodies. This Exclusive Mineral Resource is basically Inferred Mineral Resource that is in the process of being upgraded with a conversion drilling programme. These Mineral Resources are located below infrastructure, starting on level 16 (at Fonte Grande Sul and Serrotinho) and level 14 (at Balancão, Galinheiro and Canta Galo). In addition, secondary areas consisting of old stoping panels and satellite orebodies are also considered Exclusive Mineral Resource (0.03Moz).

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes  
Grade  
Contained gold  
Cuiabá  
Category  
million  
g/t  
Tonnes

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Moz	
Measured	1.85
7.34	
13.59	
0.44	
Indicated	0.76
6.91	
5.23	
0.17	
Inferred	11.20
8.06	
90.28	
2.90	
Cuiabá	
Total	13.81
7.90	
109.10	
3.51	

**P**

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**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Cuiabá

Category

million

g/t

Tonnes

Moz

Measured

0.48

7.52

3.58

0.12

Indicated

2.94

6.55

19.26

0.62

Inferred

10.48

8.20

85.98

2.76

Cuiabá

Total

13.90

7.83

108.82

3.50

**Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Cuiabá

Category

million

g/t

Tonnes

Moz

Main orebodies

Proved

2.13

8.90

18.94

0.61

Probable	0.50
10.81	
5.37	
0.17	
Total	2.63
9.26	
24.31	
0.78	
Narrow veins	
Proved	
1.83	
5.30	
9.71	
0.31	
Probable	2.58
4.76	
12.27	
0.39	
Total	4.41
4.98	
21.98	
0.71	
Cuiabá	
Total	7.04
6.58	
46.29	
1.49	

**Inferred Mineral Resource in business plan**

There are some areas of Inferred Mineral Resource representing 8% (125,000oz) of the total gold planned to be exploited.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Cuiabá

million

g/t

Tonnes

Moz

Comments

Cuiabá (main orebodies)

0.33

6.31

2.08

0.07

Part of orebody FGS level 15 and orebody

SER levels 14 and 15

Cuiabá (narrow veins)

0.33

5.53

1.80  
0.06  
Part of orebodies BAL and GAL level 12  
and 13  
Total  
0.66  
5.92  
3.88  
0.12

**Ore Reserve below infrastructure**

as at 31 December 2010

Tonnes  
Grade  
Contained gold  
Cuiabá  
Category  
million  
g/t  
Tonnes  
Moz  
Proved  
0.49  
6.43  
3.15  
0.10  
Probable  
2.51  
5.82  
14.61  
0.47  
Cuiabá  
Total  
3.00  
5.92  
17.75  
0.57

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – AGA Mineraçã~ao – Cuiabá**

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

Stoping

Gold

change

value

width

Dilution

Cuiabá

price

rate

g/t Au

(cm)

(%)

MCF% MetRF%

Cuiabá (main orebodies)

850

1.93

5.52

1,000

5

94.50

93.00

Cuiabá (narrow veins)

850

1.93

3.64

400

5

94.50

93.00

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Paulo de Tarso Ferreira

AusIMM

224828

25 years



Ore Reserve

Silsomar Botelho

AusIMM

224833

24 years

Brazil

**AGA Mineração – Cuiabá**

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Brazil

**AGA Mineração – Lamego**

**Location**

Lamego is located in the northwestern 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 orebodies associated both with two horizons of chemical rocks, such as

banded iron formations (BIF) and metachert (MCH) and also with shear zones containing abundant quartz veinlets.

The proportions

of these lithotypes vary substantially from one body to another. In the BIF, sulphide mineralisation is associated with the gold, whilst

in the metachert and quartz veins the gold occurs either as native gold or in sulphides. The orebodies are characterised by

sulphidation in the form of disseminated sulphide bands or as fracture filling, rarely as compact sulphide, hosted in BIF/MCH. sulphide

bands are rare in metachert. The plunge coincides both with the fold axis of the first two events and with the mineral stretching

lineation.

The Arco da Velha orebody is located on the eastern side of a large fold and extends approximately 250m along the strike. In the

northeastern portion of the orebody, the mineralisation is concentrated in the metachert, whilst in the southwestern portion it is

concentrated in the banded iron formation. 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 footwall.

The Cabeça de Pedra orebody is located in the hinge region of the large Lamego structure. The area which has shown the best

economic potential contains banded iron formations and metacherts (80% of the area is occupied by banded iron formation and the

remaining 20% by metacherts). The presence of faultings 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 footwall.

Carragemis is the main orebody that opened the way for the Lamego project resumption. Structurally, it is located in the junction

zone or in the proximity of two fold limbs in the north-east portion of the major structure. It is a boudinaged ore 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 banded iron formations.

**Projects**

The Lamego mine project was approved in September 2009 and work to date has mainly involved the implementation and ramping

up required to start mining. This phase is expected to be completed by December 2011.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Lamego

Category

million

g/t

Tonnes

Moz

Arco da Velha

Measured

0.20

4.97

0.99

0.03

Indicated

0.12

4.90 0.57

0.02

Inferred

0.48

3.77

1.81

0.06

Total

0.79

4.23

3.36

0.11

Cabeça de Pedra

Measured

0.07

6.14

0.41

0.01

Indicated

0.87 4.80

4.17

0.13

Inferred

0.87

4.86

4.24

0.14

Total

1.81

4.88

8.82

0.28

Carruagem

Measured

0.04

13.65

0.52

0.02

Indicated

1.52

7.64

11.62		
0.37		
Inferred	1.22	
5.98		
7.30		
0.23		
Total	12.78	
6.99		
19.44		
0.62		
Secondary areas		
Measured		
0.06		
7.86		
0.51		
0.02		
Indicated		
0.05		
8.28	0.40	0.01
Inferred	0.68	
5.58		
3.81		
0.12		
Total	0.80	
5.93		
4.72		
0.15		
Lamego		
Total	6.18	
5.88		
36.34		
1.17		
<b>Exclusive Mineral Resource</b>		
as at 31 December 2010		
Tonnes		
Grade		
Contained gold		
Lamego		
Category		
million		
g/t		
Tonnes		
Moz		
Measured	0.16	
7.31		
1.17		
0.04		
Indicated	1.63	
6.46		
10.58		
0.34		

Inferred	2.37
5.20	
12.32	
0.40	
Lamego	
Total	4.17
5.78	
24.06	
0.77	

**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Lamego

Category

million

g/t

Tonnes

Moz

Measured

0.00

4.40

0.02

0.00

Indicated

1.44

5.92

8.52

0.27

Inferred

2.32

5.17

11.99

0.39

Lamego

Total

3.76

5.46

20.53

0.66

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – AGA Mineração – Lamego**

Brazil

**AGA Mineração – Lamego**

**P****173****Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Lamego

Category

million

g/t

Tonnes

Moz

Arco da Velha

Proved

0.13

3.55

0.46

0.01

Probable

0.07

3.88

0.28

0.01

Total

0.20

3.67

0.74

0.02

Cabeça de Pedra

Proved

0.05

4.11

0.20

0.01

Probable

0.04

3.92

0.17

0.01

Total

0.09

4.02

0.37

0.01

Carruagem

Proved

0.04

9.88

0.38

0.01

Probable

0.85

6.04

5.11

0.16

Total

0.88

6.21  
5.49  
0.18  
Lamego  
Total  
1.18  
5.60  
6.60  
0.21

**Inferred Mineral Resource in business plan**

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Lamego

million

g/t

Tonnes

Moz

Comments

Lamego (Cabeca de Pedra)

0.43

3.88

1.65

0.05

Lamego (Carruagem)

0.50

5.33

2.69

0.09

Total

0.93

4.67

4.34

0.14

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – AGA Mineração – Lamego**

Brazil

**AGA Mineração – Lamego**

**Ore Reserve below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Lamego

Category

million

g/t

Tonnes

Moz

Proved

–

–

–

–

Probable

0.21

5.85

1.25

0.04

Lamego

Total

0.21

5.85

1.25

0.04

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

Stoping

Gold

change

value

width

Dilution

Lamego

price

rate

g/t Au

(cm)

(%)

MCF% MetRF%

Lamego



850  
1.93  
3.42  
3,500  
5 94.50 93.00

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Paulo de Tarso Ferreira

AusIMM

224828

25 years

Ore Reserve

Leonardo Nunes Coelho

AusIMM

222679

9 years

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Brazil

**AGA Mineração – Nova Lima Sul**

**Location**

Nova Lima Sul project is located in the western portion of the Rio das Velhas greenstone belt, and all the targets are within a 16km radius the Queiroz metallurgical plant. The project 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 project goal is to add and convert the Mineral Resource in order to fill the current Queiroz plant's spare capacity. For this reason, the project was split in three phases, according to areas of best potential:

- Phase I: Raposos + Luzia da Mota oxide
- Phase II: Morro da Glória + Luzia da Mota Sulphide
- Phase III: Urubu + Bicalho + Limoeiro + Saboeiro Rasgão

**Geology**

The Nova Lima Sul projects are situated in the south-western portion of the Iron Quadrangle (QF) 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) which hosts the main gold mines and mineral occurrences in the Iron Quadrangle.

The most common orebodies are massive, banded and disseminated sulphides hosted in banded iron formation and lapa seca (albite hydrothermal rocks). The sulphidated orebodies hosted in BIFs and lapa seca are divided in two types, namely:

- type 1, which consist of disseminated pyrrhotite, subordinate pyrite and arsenopyrite occurring in shear zones sub-parallel to the bedding, with quartz veins parallel to the shear and in tension gashes; and
- type 2, which is composed of pyrite and arsenopyrite, which replace the iron mineral-rich bedding, including quartz veins and shear zones, which cut the layering at a high angle.

Mapped orebody dimensions are around 0.5 to 20m in thickness and the length (along plunge direction) can be more than 5,000m.

The orebody's plunge is defined by the stretching lineation and it is parallel to the fold axis of the first two deformation regional events.

**Geology of Raposos**

The Raposos sequence is interpreted as a ductile thrust of the first deformative event. The main mineralised area is associated with

an anticline of the same event, in the position of the lateral ramp. The stratigraphic sequence, repeated by folds, has ultramafics at

the base, overlain by komatiitic basalts, basalts and andesites with layers of BIF. Pelites and metavolcaniclastic 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 in BIF. The orebodies are surrounding by concentric hydrothermal alteration zones consisting of sericitisation, carbonatisation and chloritisation that extend from the orebody outwards.

**Geology of Morro da Gloria**

In the Morro da Gloria area the rocks consist of komatiitic ultramafics, graphite phyllite, felsic metavolcaniclastic associated with metapelites and several layers of banded iron formation.

The macro structures at Raposos and Morro da Gloria are anticlines and the mineralisation is associated with folds and shear zones, surrounding by concentric hydrothermal alteration zones consisting of sericitization, 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.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – AGA Mineração – Nova Lima Sul**

Brazil

**AGA Mineração – Nova Lima Sul**

**Geology of Luzia da Mota**

The Luzia da Motta targets are mainly associated with two types of mineralisation, hydrothermal alteration zones (mainly quartz, carbonate and sericite) and sulphides hosted in metavolcanoclastic schists (Luzia Belt). The sequence is also associated with meta-basic/meta-ultrabasic rocks from komatiitic compositions with sulphides in a context very similar to Raposos Mine (Santana Belt).

The mineralisation occurs over 12 targets in a north-south orientation and the most important Mineral Resource delineated in the zone

is at the Santana Sul and Santana 0, 1 and 2 deposits.

**Exploration**

Plans to explore the Raposos mine and Morro da Glória by underground drilling and the Luzia da Motta targets by surface drilling are

underway. Morro da Glória will need to be dewatered before the orebodies can be accessed. The aim of the exploration programme

is to confirm and convert the Inferred Mineral Resource to the Indicated Mineral Resource category at drilling patterns of 60m along

the plunge direction and 30m along the orebody's strike. A full exploration campaign, anticipated to be completed in 2014, will involve

76,800m of drilling, of which 24,000m will be underground drilling at Morro da Gloria; 37,500m surface drilling at Luzia da Motta and

15,300m underground drilling at Raposos.

**Raposos**

The underground drilling programmes at Morro da Gloria and Raposos will only be able to begin once dewatering and mine

refurbishment has taken place and it is safe to access these mines. It is expected that that it will take two years before underground

drilling can commence. One deep drill-hole (reaching 1,459m) is being drilled at Raposos surface to confirm mineralisation in depth,

specifically for the Espirito Santo and EW orebodies. The aim is to be able to mine down to level 40, which represents a reasonable

payback for further studies and risk amelioration drilling.

**Luzia da Mota**

Between the years 1993 and 2005 a total of 27,100m of DD and RC drilling was completed in the Luzia da Mota area. The

Santana 0,1 and 2 deposits had the largest amount of geological information and were therefore chosen as the preferred target areas

and in 2010 a total of 8,232m of follow-up drilling was completed on these targets. An environmental licence has been applied for

and needs to be approved before the 2011 drilling campaign of 12,300m can commence on the other mineralised trends.

**Projects**

The whole set of orebodies and disused mines in the southern region of Nova Lima is part of the project. This project comprises the

exploration and mine re-opening in areas such as Raposos and Morro da Gloria and new enterprises such as Luzia da Motta (open pit for oxide ore and sulphide mineralisation potential down to a depth of 300m). For the last two years, AngloGold Ashanti has been busy with conceptual, pre-feasibility and feasibility studies for the project and during that past year exploration and in-fill was completed at Luzia da Motta to increase the confidence in the Mineral Resource. 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 by between 60,000 and 100,000oz per annum.

In 2011 exploration work will continue at Luzia da Motta plus 13,200m of drilling on other targets such as Cabaças, Casa Velha and Morro das Cinzas. Underground chip sampling and drilling at Raposos will commence, depending on the progress of the dewatering and refurbishment of the old mine workings.

**P****177****Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Nova Lima Sul

Category

million

g/t

Tonnes

Moz

Morro da Gloria

Measured

-

-

-

-

Indicated

-

-

-

-

Inferred

1.24

6.60

8.18

0.26

Total

1.24

6.60

8.18

0.26

Raposos

Measured

0.18

7.19

1.26

0.04

Indicated

0.39

7.03

2.74

0.09

Inferred

2.15

6.61

14.20

0.46

Total

2.71

6.70

18.19

0.58

Luzia da Mota

Measured

0.51

1.66

0.85

0.03	
Indicated	0.61
1.85	
1.14	
0.04	
Inferred	0.63
2.99	
1.89	
0.06	
Total	1.76
2.20	
3.88	
0.12	
Nova Lima Sul	
Total	
5.71	
5.30	
30.25	
0.97	
<b>Nova Lima Sul</b>	
<i>Deep drilling Raposos</i>	

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – AGA Mineração – Nova Lima Sul**

**Exclusive Mineral Resource**

The Nova Lima Sul project currently does not have any declared Ore Reserve and only a Measured, Indicated or Inferred Mineral

Resource for Luzia da Motta, Raposos and Morro da Gloria. The present Mineral Resource statement has classified the Mineral

Resource for old Morro da Glória old mine as Inferred.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Nova Lima Sul

Category

million

g/t

Tonnes

Moz

Measured 0.69

3.07

2.11

0.07

Indicated 1.00

3.86

3.88

0.12

Inferred 4.02

6.03

24.26

0.78

Nova Lima Sul

Total

5.71

5.30

30.25

0.97

**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes

Grade

Contained gold

Nova Lima Sul

Category

million

g/t

Tonnes

Moz

Measured



0.51  
1.66  
0.85  
0.03  
Indicated  
0.81  
3.11  
2.53  
0.08  
Inferred  
4.02  
6.03  
24.26  
0.78  
Nova Lima Sul  
Total  
5.35  
5.17  
27.64  
0.89

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Paulo de Tarso Ferreira

AusIMM

224828

25 years

Brazil

**AGA Mineração – Nova Lima Sul**

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Brazil

**Serra Grande**

**Location**

Serra Grande is co-owned with Kinross Gold Corporation, with 50% of this joint venture attributable to AngloGold Ashanti. Serra

Grande controls, or has an interest in, approximately 55,000ha in and around the Crixás mining district in the north-western areas of

the Goiás State in central Brazil. Serra Grande is located 5km from the city of Crixás and is 420km from Brasilia, the capital of Brazil.

Serra Grande comprises three underground mines, namely Mina III, Mina Nova and Mina Palmeiras, and one open-pit mine on the

outcrop of Mina III (between surface and 50 level). The processing circuit is equipped with grinding, leaching, filtration, precipitation and smelting facilities.

**Geology**

The Serra Grande gold deposits are hosted in a typical greenstone belt sequence. The host rocks belong to Crixás Group of the

Upper Archaean located in the Crixas greenstone belt. Gold mineralisation is associated with metasediments and metavolcanics from

the Ribeirão das Antas and Rio Vermelho formations respectively. The Crixas greenstone belt is surrounded by granitic gneiss terrains

from the Anta and Caiamar complexes and metasedimentary rocks from the Santa Terezinha Group.

Two main deformational events have been identified in the region. The first event is a thrusting event (D1 from west to east) developed

with irregular thrust ramp geometry. This event was responsible for stacking and inverting the stratigraphic sequences. The second

event (D2) was the thrusting of the Santa Terezinha sequence over the Crixas greenstone belt, folding the rocks (F2) and generating

the structural controls of the gold mineralisation.

The mineralised zones at Serra Grande have been separated into three main domains called Structure III, IV and Palmeiras.

In Structure III the mineralisation is located in quartz veins that are hosted in graphitic schists. It 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 in the Palmeiras structure are hosted in sericite and chlorite schists with massive and disseminated sulphide

concentrated in folded zones. The ore shoots plunge downwards to the north-west and the dips vary between 6° and 35°.

**Exploration**

During the past four years Serra Grande has invested heavily in exploration to identify new orebodies and to improve the level of

information around the mining site. During this period 130,000m of drilling was completed along the main geological structures in the

area. The main result of this exploration programme was the discovery of the Pequizão orebody, located between Mina III and Mina

Nova. To date Pequizão has added 0.5Moz to the Inferred Mineral Resource and is open ended down plunge and along strike. Recent

drilling intersections have shown that the mineralisation extends below a depth of 500m and follow up drilling will continue.

A fast-track exploration programme, planned for the next two years, aims to define and evaluate the full potential of the known orebodies such as Pequizão, Palmeiras, Orebody IV and Mina Nova. It is also intended to generate new targets in the north-west structure and the region. This exploration programme will include 150,000m of drilling and also involve new geochemical and geophysical surveys over the main geological structures within the 55,000ha mining lease area.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – Serra Grande**

Brazil

**Serra Grande**

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Serra Grande

Category

million

g/t

Tonnes

Moz

Mina Nova

Measured

1.23

3.48

4.28

0.14

Indicated

0.34

3.00

1.02

0.03

Inferred

0.34

3.67

1.25

0.04

Total

1.91

3.43

6.55

0.21

Mina III

Measured

0.59

4.57

2.68

0.09

Indicated

0.56

4.42

2.49

0.08

Inferred

0.38

4.11

1.58

0.05

Total

1.53

4.40

6.74

0.22	
Palmeiras	
Measured	0.06
7.13	
0.40	
0.01	
Indicated	0.25
5.18	
1.31	
0.04	
Inferred	0.48
6.04	
2.87	
0.09	
Total	0.78
5.84	
4.58	
0.15	
Pequiza	
Measured	—
—	
—	
—	
Indicated	0.41
6.71	
2.72	
0.09	
Inferred	1.08
5.27	
5.68	
0.18	
Total	1.48
5.66	
8.40	
0.27	
Open pit	
Measured	
0.48	
3.33	
1.61	
0.05	
Indicated	0.35
2.97	
1.05	
0.03	
Inferred	—
—	
—	
—	
Total	0.84
3.18	

2.67	
0.09	
Total stockpiles	
Measured	
0.03	
2.83	
0.08	
0.00	
Indicated	—
—	
—	
—	
Inferred	—
—	
—	
—	
Total	0.03
2.83	
0.08	
0.00	
Serra Grande	
Total	
6.58	
4.41	
29.02	
0.93	

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

Type of drilling
Mine/ Spacing
Blast-
Project
Category
m (- x -)
Diamond
RC
hole Other
Comments
Serra Grande
Measured
10 x 10, 10 x 20
—
—
—
Indicated
10 x 20,
—
—
—
20 x 50, and
—
—

-  
25 x 100

-  
-  
-

Inferred  
50 x 50, 50 x 100

-  
-  
-

Grade control 2 x 2

-  
-  
-

Chip sampling

**P**  
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**Exclusive Mineral Resource**  
 The Exclusive Mineral Resource is located below the infrastructure and mine development level.

**Exclusive Mineral Resource**

as at 31 December 2010

Tonnes	
Grade	
Contained gold	
Serra Grande	
Category	
million	
g/t	
Tonnes	
Moz	
Measured	0.11
4.04	
0.44	
0.01	
Indicated	0.33
3.63	
1.19	
0.04	
Inferred	2.28
5.00	
11.39	
0.37	
Serra Grande	
Total	
2.71	
4.80	
13.01	
0.42	

**Mineral Resource below infrastructure**

as at 31 December 2010

Tonnes	
Grade	
Contained gold	
Serra Grande	
Category	
million	
g/t	
Tonnes	
Moz	
Measured	–
–	
–	
–	
–	
Indicated	–
–	



—  
 —  
 —  
 Inferred  
 4.56                    5.00  
 22.76                    0.73

Serra Grande

Total

4.56

5.00

22.76

0.73

Serra Grande:

Mineral Resource reconciliation

2009 vs 2010

Ounces (millions)

1.03

1.02

1.01

1.00

0.99

0.98

0.97

0.96

0.95

0.94

0.93

Change

1.03

2009

-0.09

Depletion

0.00

Gold

price

0.00

Explo-

ration

-0.00

Metho-

dology

0.93

2010

0.00

Cost

0.00

Other

Serra Grande:

Ore Reserve reconciliation

2009 vs 2010

Ounces (millions)

0.42  
0.40  
0.38  
0.36  
0.34  
0.32  
0.30  
0.28  
0.26  
Change  
0.35  
2009  
-0.08  
Depletion  
0.14  
Model  
change  
0.00  
New  
ounces  
from  
projects  
0.00  
Scope  
change  
0.39  
2010  
-0.00  
Change in  
Economics  
-0.01  
Other

P

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010****Americas – Serra Grande**

Brazil

**Serra Grande****Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

Serra Grande

Category

million

g/t

Tonnes

Moz

Mina Nova

Proved

0.94

3.19

3.00

0.10

Probable

0.21

2.80

0.60

0.02

Total

1.16

3.12

3.60

0.12

Mina III

Proved

0.49

3.84

1.88

0.06

Probable

0.43

4.01

1.74

0.06

Total

0.92

3.92

3.62

0.12

Palmeiras

Proved

0.04

2.51

0.11

0.00

Probable

0.14

4.58	
0.66	
0.02	
Total	0.19
4.10	
0.77	
0.02	
Pequiza	
Proved	—
—	
—	
—	
Probable	0.26
6.74	
1.74	
0.06	
Total	0.26
6.74	
1.74	
0.06	
Open pit	
Proved	
0.46	
3.56	
1.65	
0.05	
Probable	0.27
2.71	
0.73	
0.02	
Total	0.73
3.25	
2.37	
0.08	
Total stockpiles	
Proved	
0.03	
2.83	
0.08	
0.00	
Probable	—
—	
—	
—	
Total	0.03
2.83	
0.08	
0.00	
Serra Grande	
Total	
3.28	

3.71  
 12.18  
 0.39

**Inferred Mineral Resource in business plan**

The Inferred Mineral Resources was used in the optimisation process with LOM level 3, but there are no Inferred Mineral Resources in levels 1 and 2a.

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-  
 Cut-off  
 Gold  
 change  
 value  
 Dilution  
 Serra Grande  
 price  
 rate  
 g/t Au  
 (%)  
 MCF%  
 MetRF%  
 Mina III  
 850  
 1.70  
 1.79  
 9  
 95  
 94.90  
 Mina Nova  
 850  
 1.70  
 1.79  
 5            95  
 90.90  
 Palmeiras  
 850  
 1.70  
 1.79            6  
 95  
 94.60  
 Pequizao  
 850  
 1.70  
 1.79  
 12  
 95            94.60  
 Open pit  
 850  
 1.70  
 1.00

5

95

92.90

Total stockpiles

850

1.70

1.00

—

—

—

**P**

**183**

**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Edijarbas Martins Araujo

AusIMM

224825

30 years

Ore Reserve

Edijarbas Martins Araujo

AusIMM

224825

30 years

Serra Grande

– surface (metric)

Tonnes above

cut-off (millions)

1.0

4.5

Average grade

above cut-off (g/t)

1.5

0.9

0.8

0.7

0.6

0.5

0.4

0.3

0.2

0.1

0

8.5

8.0

7.5

7.0

6.5

6.0

5.5

5.0

4.5

4.0

3.5

3.0  
Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off  
2.5  
3.5  
3.0  
2.0  
4.0  
Serra Grande  
– underground (metric)  
Tonnes above  
cut-off (millions)  
1  
10  
Average grade  
above cut-off (g/t)  
4  
6  
5  
4  
3  
2  
1  
0  
15  
14  
13  
12  
10  
9  
8  
7  
6  
5  
4  
Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off  
6  
8  
7  
5  
9  
3  
2



**P**

**184**

**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – Colombia**

**Country overview**

Systematic regional greenfield exploration was undertaken by AngloGold Ashanti and its joint venture partners B2Gold, Glencore

International and Mineros S.A. in Colombia. AngloGold Ashanti has consolidated the tenement position from roughly 100,000km<sup>2</sup> in

2009 to 15,815km<sup>2</sup> at the end of 2010 through a variety of structures, including joint ventures and the relinquishment of non-

prospective areas.

At the wholly-owned La Colosa project, brownfield-exploration-led drilling and pre-feasibility development resumed during the third

quarter of 2010. 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 designated brownfield-exploration-led project feasibility study team. Feasibility

drilling began during the last quarter of 2010, after a hiatus of more than 12 months.

**Mineral Resource estimation**

**Gramalote**

At Gramalote, some 12,551m of drilling (43 holes) have been used to support the calculation of an Inferred and Indicated Mineral

Resource. The Mineral Resource estimate was generated using an indicator kriging method. All available geological drill-hole, surface

and underground mapping information has been validated for use in the modelling process.

**La Colosa**

At La Colosa, some 17,039m of drilling (59 holes) have been used to support the calculation of an Inferred Mineral Resource. Gold

grades were estimated using ordinary block kriging methodology. Kriging was performed into a parent block size of 50m by 50m by

10m for lithological domains (wireframes) in the mineralised envelope and for the waste surrounding mineralisation.

All available

geological drill-hole, surface sampling and mapping information has been validated for use in the modelling process.

Colombia

**P**

**185**

Colombia

**Gramalote**

**Location**

The Gramalote project is located in Colombia on the eastern side of the Central Cordillera, some 80km northeast of Medellin and

230km northwest of Bogota.

The Gramalote project is a joint venture with Vancouver-based B2Gold, in which AngloGold Ashanti owns 51% and B2Gold owns

49%. B2Gold is required to take the project to feasibility to obtain an additional 2%. In November 2010 AngloGold Ashanti realised

net proceeds of C\$70 million from the sale of its 10.17% shareholding in B2Gold. Proceeds from the sale will be used to fund

AngloGold Ashanti's exploration activities in Colombia, including the Gramalote project.

**Geology**

Mineralisation is hosted in the Antioquia batholith and bears a strong relationship to Cretaceous–Palaeocene magmatic-hydrothermal

pulses. Hornblende granodiorites (87Ma) and porphyritic dykes (74Ma) constitute the older sub-regional host. Biotitic tonalites and

granodiorites (60Ma) are intimately associated with Gramalote-style mineralisation.

The sub-regional control of drill targets is defined by several dextral extensional shear zones that are orientated north-west to

south-east to north-north-west to south-east-east. Hydrothermal alteration is restricted to structurally controlled veins and veinlets.

The four principal alteration styles are potassic K-feldspar, quartz-sericite, sericite-carbonate and carbonate-epidote-chlorite. The

integration of borehole results with mapped hydrothermal alteration domains confirms the strong relationship between the

K-feldspar alteration, gold grades and preferred structural orientation.

The alteration envelope forms an area of some 600 x 200m along a north 65° east axis made up by structurally controlled alteration

domains. Consistent gold grades of >0.7 g/t gold have been located within an area of 400 x 150m.

**Exploration**

The upside potential of Gramalote is considered to be in the order of 1Moz. Several satellite orebodies are under investigation and

the grade of these is similar to the main Gramalote deposit.

The Trinidad satellite deposit is located some 4km west-north-west of the main Gramalote area. The prospect is related to a set of

sub-vertical, north-east/south-west striking structural corridors. The hydrothermal domains are 7 to 50m wide and separated by

between 40 and over 70m. They are dominantly quartz-sericite (less Potassic Feldspar) zones of alterations and occur over lengths

of more than 200m.

The Guadalejo mineral occurrence is located some 34km north-west-west of the main Gramalote prospect. The structural corridor

is some 900m long by 200m wide. The central core (200 x 130m) averages 3.5g/t gold in surface sampling. Lithology and alteration

domains are similar to the main Gramalote area. Mineralisation is hosted in potassically altered biotite-rich tonalites. North-east to

south-west striking veins and veinlets are developed in extension zones of north-east-east to south-west-west lineaments.

The Las Monjas deposit occurs some 2.5km west-south-west of the main Gramalote area. This geochemically anomalous area covers an area of some 600 x 400m. Partially exposed but coherent quartz-sericite alteration is exposed an area of some 125 x 170m and transition to a K-feldspar core is possible at depth. The structural corridors strike north-north-west to south-south-east.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

Gramalote

Category

million

g/t

Tonnes

Moz

Main zone

Measured

–

–

–

–

Indicated 15.78

0.93

14.75

0.47

Inferred 21.95

0.87

19.03

0.61

Total 37.73

0.90

33.78

1.09

Gramalote

Total 37.73

0.90

33.78

1.09

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

Gramalote

Measured

–

–

–

–

–  
Indicated  
30 x 30

–  
–  
–  
2 different drill directions: W-E, SW-NE

Inferred  
50 x 50

–  
–  
–  
2 different drill directions: W-E, SW-NE

**Exclusive Mineral Resource**

The Exclusive and Inclusive Mineral Resource numbers are currently identical due to the absence of Ore Reserves.

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – Gramalote**

Colombia

**Gramalote**

Gramalote

– surface (metric)

Tonnes above

cut-off (millions)

0

1.4

Average grade

above cut-off (g/t)

0.6

0.4

0.2

100

90

80

70

60

50

40

30

20

10

0

2.4

2.2

2.0

1.8

1.6

1.4

1.2

1.0

0.8  
0.6  
0.4  
Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off

0.8  
1.2  
1.0  
1.6

**Competent persons**

Professional  
Registration  
Relevant  
Category

Name  
organisation  
number  
experience

Mineral Resource

Rudolf Jahoda

AusIMM

990544

21 years

Gramalote:

Mineral Resource reconciliation

2009 vs 2010

Ounces  
(millions)

1.10  
1.08  
1.06  
1.04  
1.02  
1.00  
0.98  
0.96

Change

1.09

2009

0.00

Depletion

0.00

Gold

price

0.00

Explo-  
ration

0.00

Metho-  
dology

1.09  
2010  
0.00  
Cost  
0.00  
Other

**P**

**187**

Colombia

**La Colosa**

**Locality**

La Colosa was discovered by AngloGold Ashanti's Colombian greenfields exploration team in 2006. The project is 100% owned by AngloGold Ashanti and located 150km west of Colombia's capital city, Bogota, and 30km west of the major town, Ibague, in the department of Tolima.

**Geology**

The La Colosa copper-poor porphyry gold system is genetically associated with Miocene (8Ma) porphyritic intrusive centres intruded into Paleozoic schists. The highest grade gold mineralisation is closely associated with a suite of early porphyry intrusions/breccias with potassic and sodic-calcic alteration, 5% pyrite and traces of chalcopyrite and molybdenite. The early porphyry stage can be divided into three phases and is elliptical in shape with a known maximum axis of at least 1,200m and a minimum east-west axis of 400m.

The late-mineral dacite porphyry occurs as a series of dykes, all <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.

**Alteration and mineralisation**

The paragenesis of the main alteration or mineralisation mineral assemblage 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. Early hydrothermal biotite is fine grained and commonly pale brown suggesting the addition of phlogopitic (magnesium-rich) biotite. 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 three early porphyries appear to have been altered and mineralised at the same time. There is scant evidence for veinlet introduction between the three intrusive events. The gold content of the three early porphyry phases is similar. The veinlets at Colosa appear to span the potassic to sodic-calcic alteration events. The earliest veinlets are composed of only biotite. However, most early veinlet generations are composed of quartz, magnetite, pyrite, pyrrhotite plus minor chalcopyrite and molybdenite. The veinlets may be either quartz or magnetite dominated.

The main control of gold grade in the diorite or dacite intrusive stock is the intrusive phase where the mineralisation is hosted.

Early intrusive phases present the highest 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 Ca-Na and K alteration with or without chloritic alteration have the best gold grades. Areas with intense illite alteration generally

have average gold grades less than 0.3ppm. The contact breccias and hornfels developed at the contact between porphyritic rock

and schist present a mineralised halo of at least 60m with an average gold grade of >1g/t.

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – La Colosa**

Colombia

**La Colosa**

**Gold deportment**

Gold grains vary from almost pure gold to a much lesser amount of gold-silver telluride. The chemical composition of Au-Ag-Te grains

is variable. The gold grains are generally fine grained around 15µm. Coarse grained gold (116µm) was found in samples from

metamorphic rocks. Gold grains occur 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 and

contain lesser amounts of pyrrhotite and arsenopyrite.

**Mineral Resource Estimation**

At La Colosa, some 17,039m of drilling (59 holes) has been used to support the estimation of the Inferred Mineral Resource.

Gold grades were estimated using ordinary block kriging methodology. Kriging was performed into a parent block size of 50m (X) by

50m (Y) by 10m (Z) for lithological domains (wireframes) in the mineralised envelope and for the waste surrounding mineralisation.

All available geological drill-hole, surface sampling and mapping information has been validated for use in the modelling process.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

La Colosa

Category

million

g/t

Tonnes

Moz

Open pit

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

392.11

0.99

387.03

12.44

Total

392.11

0.99  
387.03  
12.44  
La Colosa  
Total  
392.11  
0.99  
387.03  
12.44

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

Type of drilling

Mine/ Spacing

Blast-

Project

Category

m (- x -)

Diamond

RC

hole Other

Comments

La Colosa

Measured

-

-

-

-

-

Indicated

-

-

-

-

-

Inferred

100 x 100

-

-

-

Plus additional geological drill-holes at  
different spacing and different angles,

HQ-NQ

**Exclusive Mineral Resource**

The Exclusive and Inclusive Mineral Resource numbers are currently identical due to the absence of Ore Reserves.

**P**

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La Colosa:

Mineral Resource reconciliation

2009 vs 2010

Ounces

(millions)

12.46

12.44

12.42

12.40

12.38

12.36

12.32

12.30

Change

12.32

2009

0.00

Depletion

0.00

Gold

price

0.00

Explo-

ration

0.00

Metho-

dology

12.44

2010

0.00

Cost

0.13

Other

La Colosa

– surface (metric)

Tonnes above

cut-off (millions)

0.0

2.5

Average grade

above cut-off (g/t)

700

600

500

400

300

200

100

0

5.0  
4.5  
4.0  
3.5  
3.0  
2.5  
2.0  
1.5  
1.0  
0.5

Cut-off grade (g/t)  
Tonnes above cut-off  
Ave grade above cut-off

0.5  
1.5  
1.0  
2.0

**Competent persons**

Professional  
Registration  
Relevant

Category

Name

organisation

number

experience

Mineral Resource

Rudolf Jahoda

AusIMM

990544

21 years

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – United States of America**

United States of America

**Country overview**

In March 1999 AngloGold Ashanti acquired the Pikes Peak Mining Company, and its interests in the Cripple Creek & Victor Gold

Mining Company (CC&V) and the Jerritt Canyon joint ventures. Due to the merger of Golden Cycle Gold Corporation into a wholly-

owned subsidiary of AngloGold Ashanti effective July 1, 2008, CC&V became an indirect, wholly-owned joint venture of AngloGold

Ashanti Limited.

CC&V currently controls over 85% of the patented claims within the district and 100% of the land containing the 2010 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. The

modelling software used is MineSight® and 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 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 10.7m bench

height except South Cresson, which utilises 6.1m.

**P**

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United States of America

**CC&V**

**Location**

The Cripple Creek and Victor (CC&V) located in central Colorado in the 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. CC&V currently controls over 85% of the patented claims within the district and 100% of the land within the year-end 2010 Mineral Resource.

**Geology**

The dominant geological feature of the district is a 32Ma to 28Ma diatreme-intrusive complex hosted in Precambrian rocks located between the towns of Cripple Creek and Victor. 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 a complex history of structural deformation and 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 orebodies. Primary ore minerals include microscopic native gold, native gold with pyrite and gold tellurides. Silver is present but has minimal economic importance.

**Exploration**

The 2010 exploration programme was divided into two programmes as follows:

- converting low-grade tonnes from Inferred Mineral Resource into Measured and Indicated Mineral Resource by increasing the level of confidence in Mineral Resource tonnes focussed on the north-end of the district in the WHEX and Globe Hill areas; and
- testing and defining high-grade zones that, if they could be selectively mined through open pit mining operations, might support a plant scenario. The drilling for the high-grade targets took place in several areas, including South Cresson, Cresson, WHEX and North Cresson.

**Projects**

The largest project at CC&V is the Mine Life Extension-2 project (MLE-2), designed to extend the mine life from 2016 to 2026.

The project is looking at the possibility of an additional 190t leach pad with a plant that would process higher-grade material selectively mined from the open pit operations.

**Mineral Resource**

as at 31 December 2010

Tonnes

Grade	
Contained gold	
CC&V	
Category	
million	
g/t	
Tonnes	
Moz	
CC&V	
Measured	283.04
0.78	
221.76	
7.13	
Indicated	216.53
0.73	
157.18	
5.05	
Inferred	79.61
0.75	
59.66	
1.92	
CC&V	
Total	579.18
0.76	
438.60	
14.10	



**P**  
**192**  
**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**  
**Americas – CC&V**  
United States of America  
**CC&V**  
**Details of average drill-hole spacing and type in relation to Mineral Resource classification**

Type of drilling	Mine/ Spacing	Blast-	Project	Category	m (- x -)	Diamond	RC	hole	Other	Comments
Measured	30 x 30	–	–	Indicated	45 x 45	–	–	Inferred	75 x 75	–
Grade control	5 x 5, 5 x 6	–	–	–	–	–	–	–	–	–

**Exclusive Mineral Resource**

The Exclusive Mineral Resource at CC&V totals 343Mt, containing 8.20Moz of gold. This material lies immediately outside the designed pit shells that hold the Ore Reserve. The ore zones are generally extensions of those seen in the Ore Reserve shells and some of these tonnes will convert to Ore Reserve with infill drilling.

**Exclusive Mineral Resource**

as at 31 December 2010  
Tonnes  
Grade  
Contained gold  
CC&V  
Category  
million  
g/t  
Tonnes  
Moz

Measured	135.85
0.75	
102.38	
3.29	
Indicated	137.77
0.71	
98.42	
3.16	
Inferred	69.52
0.77	
53.85	
1.73	
CC&V	
Total	343.14
0.74	
254.66	
8.19	
CC&V:	
Mineral Resource reconciliation	
2009 vs 2010	
Ounces	
(millions)	
14.4	
14.2	
14.0	
13.8	
13.6	
13.4	
13.2	
Change	
13.74	
2009	
-0.48	
Depletion	
0.72	
Gold	
price	
0.34	
Explo-	
ration	
-0.95	
Metho-	
dology	
14.10	
2010	
-0.04	
Cost	
0.78	
Other	
CC&V:	
Ore Reserve reconciliation	

2009 vs 2010

Ounces

(millions)

5.8

5.6

5.4

5.2

5.0

4.8

4.6

4.4

4.2

4.0

3.8

3.6

Change

4.29

2009

-0.48

Depletion

0.05

Model

change

1.87

New

ounces

from

projects

0.00

Scope

change

5.73

2010

0.00

Change in

Economics

0.00

Other

**P****193****Ore Reserve**

as at 31 December 2010

Tonnes

Grade

Contained gold

CC&amp;V

Category

million

g/t

Tonnes

Moz

Cresson

Proved

75.87

0.80

60.35

1.94

Probable

41.99

0.77

32.39

1.04

Total

117.86

0.79

92.74

2.98

South Cresson

Proved

14.74

0.91

13.45

0.43

Probable

4.61

0.92

4.22

0.14

Total

19.35

0.91

17.66

0.57

Wild Horse Extension

Proved

18.58

1.30

24.08

0.77

Probable

9.94

1.08

10.74

0.35

Total

28.52

1.22

34.82		
1.12		
Globe Hill		
Proved		
26.46		
0.53		
14.06		
0.45		
Probable	18.95	
0.50		
9.55		
0.31		
Total	45.41	
0.52		
23.61		
0.76		
Schist Island		
Proved		
11.54		
0.64		
7.44		
0.24		
Probable	3.27	
0.57		
1.86		
0.06		
Total		
14.81		
0.63	9.30	0.30
CC&V		
Total		
225.95		
0.79	178.13	
5.73		

**Inferred Mineral Resource in business plan**

The total amount of Inferred Mineral Resource within the Ore Reserve design is 10Mt, containing 0.19Moz of gold.

This is

approximately 4.5% of the Proved and Probable Ore Reserve tonnes and 3.3% of the Proved and Probable Ore Reserve 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 it is in other areas.

**Inferred Mineral Resource**

as at 31 December 2010

Tonnes

Grade

Contained gold

CC&V

million

g/t	
Tonnes	
Moz	
Comments	
Cresson	
3.77	
0.63	
2.37	
0.08	
South Cresson	
0.48	
0.94	
0.45	
0.01	
Wild Horse Extension	
1.23	
0.56	
0.68	
0.02	
Globe Hill	
4.39	
0.50	
2.21	
0.07	
Schist Island	
0.22	
0.45	
0.10	
0.00	
Total	
10.09	
0.58	
5.81	
0.19	

**P**

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Americas – CC&V**

United States of America

**CC&V**

**Ore Reserve modifying factors**

as at 31 December 2010

Ex-

Cut-off

% RRF

% RRF

% MRF

% MRF

Gold

change

value

(based on

(based

(based on

(based

Serra Grande

price

rate

g/t Au

tonnes)

on g/t)

tonnes)

on g/t)

CC&V – stockpiles

–

–

–

–

–

–

–

Pits

850

1.00

0.17

100

99

101

101

CC&V

– surface (metric)

Tonnes above

cut-off (millions)

0.0

1.4

Average grade

above cut-off (g/t)

0.6

0.4

0.2

700

600

500

400

300

200

100

0

-100

7

6

5

4

3

2

1

0

Cut-off grade (g/t)

Tonnes above cut-off

Ave grade above cut-off

0.8

1.2

1.0



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**Competent persons**

Professional

Registration

Relevant

Category

Name

organisation

number

experience

Mineral Resource

Tim Brown

AusIMM

226857

25 years

Ore Reserve

Jesse Gage

AusIMM

Former member

23 years

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**AngloGold Ashanti Annual Financial Statements 2010**

**Definitions**

Definitions

**Mineral Resource**

The JORC 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 subdivided, 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 deposit.

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 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%.

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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.

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 (LOM) 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 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.

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.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Glossary of terms**

**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 (tons 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 an orebody through shafts and/or tunnelling in underground mining operations.

**Discontinued operation**

A component of an entity that, pursuant to a single plan, has been disposed of or abandoned or is classified as held-for-sale until

conditions precedent to the sale have been fulfilled.

Glossary of terms

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**Doré**

Impure alloy of gold and silver produced at a mine to be refined to a higher purity, usually consisting of 85% gold on average.

**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).

**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.

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**AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010**

**Glossary of terms**

**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.

**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).

**Precipitate**

The solid product of chemical reaction by fluids such as the zinc precipitation referred to below.

**Price received (\$/oz and R/kg)**

Attributable gold income including realised non-hedge derivatives divided by attributable ounces or kilograms sold.

**Productivity**

An expression of labour productivity based on the ratio of grams of gold produced per month to the total number of employees in underground mining operations.

**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, Argentina, Australia, Brazil, Ghana, Guinea, Mali, Namibia, Tanzania and United States of America.

**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.

Glossary of terms



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**Resource to Reserve reconciliation factor (RRF)**

This is the variance between the resource model and the ore perimeters.

**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.

**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 orebody is extracted.

**Stopping**

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.

**Ton**

Used in imperial statistics. Equal to 2,000 pounds. Referred to as a short ton.

**Tonnage**

Quantity of material measured in tonnes or tons.

**Waste**

Material that contains insufficient mineralisation for consideration for future treatment and, as such, is discarded.

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<b>AngloGold Ashanti Mineral Resource and Ore Reserve Report 2010</b>	
<b>Abbreviations</b>	
°	
Degrees	
\$	
United States dollars	
ARS	
Argentinean peso	
A\$ or AUD	
Australian dollars	
ADS	
American Depositary Share	
ADR	
American Depositary Receipt	
ASX	
Australian Securities Exchange	
Au	
Contained gold	
BRL	
Brazilian real	
capex	
Capital expenditure	
CLR	
Carbon Leader Reef	
DRC	
Democratic Republic of the Congo	
g	
Grams	
g/t	
Grams per tonne	
g/TEC	
Grams per total employee costed	
JORC	
Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves	
JSE	
JSE Limited	
kg	
Kilograms	
km	
Kilometres	
LIB	
Long inclined borehole	
LOM	
Life of mine	
LVB	
Long vertical borehole	
M or m	
Metre or million, depending on the context	
MCF	

Mine Call Factor  
MetRF  
Metallurgical Recovery Factor  
Moz  
Million ounces  
MRF  
Mining Reconciliation Factor  
Mt  
Million tonnes or tons  
Mtpa  
Million tonnes/tons per annum  
NPV  
Net present value  
oz  
Ounces (troy)  
oz/t  
Ounces per ton  
R or ZAR  
South African rands  
RRF  
Resource to Reserve reconciliation factor  
SAMREC  
The South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (the SAMREC Code)  
t  
Tons (short) or tonnes (metric)  
tpm  
Tonnes/tons per month  
tpa  
Tonnes/tons per annum  
tpd  
Tonnes/tons per day  
VCR  
Ventersdorp Contact Reef  
VR  
Vaal Reef  
Abbreviations

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Administrative information

**AngloGold Ashanti Limited**

Registration No. 1944/017354/06

Incorporated in the Republic of South Africa

ISIN: ZAE000043485

**Share codes:**

JSE: ANG

LSE: AGD

NYSE: AU

ASX: AGG

GhSE (Shares):

AGA

GhSE (GhDS):

AAD

Euronext Paris:

VA

Euronext Brussels:

ANG

JSE Sponsor:

UBS

Auditors:

Ernst & Young Inc.

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**Directors**

***Executive***

M Cutifani\*\* (Chief Executive Officer)  
S Venkatakrishnan\* (Chief Financial Officer)

***Non-executive***

TT Mboweni

†

(Chairman)

R Gasant

†

FB Arisman

#

WA Nairn

†

Prof LW Nkuhlu

†

F Ohene-Kena

+

SM Pityana

†

†

*South African*

*\* British*

*# American*

*\*\* Australian + Ghanaian*

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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  
General e-mail enquiries  
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AngloGold Ashanti website  
<http://www.AngloGoldAshanti.com>  
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Companysecretary@AngloGoldAshanti.com

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.

**Forward-looking statements**

Certain statements contained in this document, including, without limitation, those concerning AngloGold Ashanti Limited's (AngloGold Ashanti) strategy to reduce its gold hedging position, including the extent and effect of the hedge reduction, the economic outlook for the gold mining industry, expectations regarding gold prices, production, cash costs and other operating results, growth prospects and outlook of AngloGold Ashanti's operations, individually or in the aggregate, including the completion and commencement of commercial operations of certain of AngloGold Ashanti's exploration and production projects and completion of acquisitions and dispositions, AngloGold Ashanti's liquidity and capital resources and capital expenditure, and the outcome and consequence of any pending litigation proceedings, contain certain forward-looking statements regarding AngloGold Ashanti's operations, economic performance and financial condition. Although AngloGold Ashanti believes that the expectations reflected in such forward-looking statements 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, amongst other factors, changes in economic and market conditions, success of business and operating initiatives, changes in the regulatory environment and other government actions, fluctuations in gold prices and exchange rates, and business and operational risk managements. For a discussion of such risk factors, refer to the section titled "Risk management and internal controls" in the annual financial 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 the annual financial statements or to reflect the occurrence of unanticipated events. 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.



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**www.anglogoldashanti.com**

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**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: March 31, 2011

By:

/s/ L Eatwell

Name: L EATWELL

Title: Company Secretary