

ANGLOGOLD ASHANTI LTD

Form 6-K

April 08, 2015

**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, 2015

Commission File Number 1-14846

AngloGold Ashanti Limited

(Name of registrant)

76 Jeppe Street

Newtown, 2001

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

South Africa

(Address of principal executive offices)

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

**Form 20-F**  **Form 40-F**

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

Yes

**No**

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

Yes

**No**

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

Yes

**No**

Enclosure:

**ANGLOGOLD ASHANTI MINERAL RESOURCE AND ORE RESERVE**

**STATEMENT FOR THE YEAR ENDED DECEMBER 31, 2014**

MINERAL RESOURCE  
AND ORE RESERVE  
REPORT  
2014  
A TRULY  
**GLOBAL  
PRODUCER OF GOLD**

OUR  
**MISSION**

To create value for our shareholders, our employees and our business and social partners through safely and responsibly exploring, mining and marketing our products. Our primary focus is gold, but we will pursue value creating opportunities in other minerals where we can leverage our existing assets, skills and experience to enhance the delivery of value.

**OUR VISION**

**OUR VALUES**

To be the

**LEADING**

mining company

Safety is our first value.

We place people first and correspondingly put the highest priority on safe and healthy practices and systems of work.

We are responsible for seeking out new and innovative ways to prevent injury and illness in our business and to ensure that our workplaces are free of occupational injury and illness. We live each day for each other and use our collective commitment, talents, resources and systems to deliver on our most important commitment .... to care.

We treat each other with dignity and respect.

We believe that individuals who are treated with respect and who are entrusted to take responsibility, respond by giving their best. We seek to preserve people's dignity, their sense of self-worth in all our interactions, respecting them for who they are and valuing the unique contribution that they can make to our business success. We are honest with ourselves and others, and we deal ethically with all of our business and social partners.

We value diversity.

We aim to be a global leader with the right people for the right jobs. We promote inclusion and team work, deriving benefit from the rich diversity of the cultures, ideas, experiences and skills that each employee brings to the business.

We are accountable for our actions and undertake to deliver on our commitments.

We are focused on delivering results and we do what we say we will do. We accept responsibility and hold ourselves accountable for our work, our behaviour, our ethics and our actions. We aim to deliver high performance outcomes and undertake to deliver on our commitments to our colleagues, business and social partners, and our investors.

We want the communities and societies in which we operate to be better off for AngloGold Ashanti having been there.

We uphold and promote fundamental human rights where we do business. We contribute to building productive, respectful and mutually beneficial partnerships in the communities in which we operate. We aim to leave a legacy of enduring value.

We respect the environment.

We are committed to continually improving our processes in order to prevent pollution, minimise waste, increase our carbon efficiency and make efficient use of natural resources. We will develop innovative solutions to mitigate

environmental and climate risks.

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<b>AND RETURNS</b>
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<b>2014</b>
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Administrative

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We strive to

generate free cash

flow and returns

to shareholders,

after funding

our investment



requirements and  
servicing our debt.  
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AngloGold Ashanti's Mineral Resource and Ore Reserve are reported in accordance with the minimum standards described by the Australia Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 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 and amended July 2009).

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 2014:

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

#### GUIDE TO REPORTING

AngloGold Ashanti Limited (AngloGold Ashanti) publishes a suite of reports to record its overall performance annually. The Integrated Report for the 2014 financial year should be read in conjunction with our Notice of Meeting and Summarised Financial Information 2014, which has been posted to shareholders, our Annual Sustainable Development Report 2014 and our Annual Financial Statements 2014.

Other reports available for the financial year are this Mineral Resource and Ore Reserve Report 2014, operational profiles and country fact sheets. These reports are all available on our annual report portal at [www.aga-reports.com](http://www.aga-reports.com) and [www.anglogoldashanti.com](http://www.anglogoldashanti.com). For terminology used, please refer to the glossary of terms on page 187.

#### FOR NOTING:

The following key parameters should be noted in respect of our reports:

- Production is expressed on an attributable basis unless otherwise indicated.
- Unless otherwise stated, \$ or dollar refers to US dollars throughout this suite of reports.
- Locations on maps are for indication purposes only.
- Group and company are used interchangeably.
- 'Statement of financial position' and 'balance sheet' are used interchangeably.

#### ABOUT THIS REPORT

*Note: Rounding of figures in this document may result in minor computational discrepancies.*

*Throughout this report, the metric system of measurement is used.*

*All grade tonnage graphs in this document are for Mineral Resources.*

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**4**

**Our primary**

platform for reporting  
is our online reporting website  
www.aga-reports.com

**THE**

**2014**

SUITE OF REPORTS INCLUDES:

**>IR**

Integrated Report 2014

**>SDR**

Sustainable Development Report 2014\*

**>R&R**

Mineral Resource and Ore Reserve Report 2014

**>AFS**

Annual Financial Statements 2014

**>OPS**

Operational profiles 2014\*\*

**>NOM**

Notice of Annual General Meeting and Summarised  
Financial Information 2014 (Notice of Meeting)

\*

*This report is an online report. A summary  
report is available as a PDF.*

*\*\* The operational profiles will be available on  
the website by the end of April 2015.*

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The year in review

12

Mineral Resource by country  
(inclusive of Ore Reserve)

13

Mineral Resource by country  
(exclusive of Ore Reserve)

14

Ore Reserve by country

16

Reconciliation of Inclusive  
Mineral Resource: 2013 –  
2014

18

Reconciliation of Ore  
Reserve: 2013 – 2014

LOCATED IN

11 COUNTRIES

ACROSS FOUR

REGIONS

This section provides an  
overview of AngloGold  
Ashanti's Mineral  
Resource and Ore

Reserve position and the  
changes thereto in 2014.

GROUP OVERVIEW

CAPTION: Using technology to improve  
production and safety in deep-level mining

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**6**

3

7

6

10

9

2

4

1

11

8

5

1 Argentina

Cerro Vanguardia (92.5%)

2 Brazil

Serra Grande

AGA Mineração

3 United States

Cripple Creek & Victor (CC&V)

4 Colombia

Gramalote (51%)

La Colosa

Quebradona (89.75%)

10 South Africa

Vaal River

Great Noligwa

(2)

Kopanang

Moab Khotsong

West Wits

Mponeng

TauTona

Surface Operations

(4)

11 Australia

Sunrise Dam

Tropicana (70%)

5 Guinea

Siguiri (85%)

6 Mali

Morila (40%)

(1)

Sadiola (41%)

Yatela (40%)

(3)

7 Ghana

Iduapriem

Obuasi

8 DRC

Kibali (45%)

(1)

Mongbwalu (86.2%)

9 Tanzania

Geita

SOUTH

AFRICA

AMERICAS

CONTINENTAL

AUSTRALASIA

SOUTH

AFRICA

AFRICA

GROUP OVERVIEW

GROUP OVERVIEW

OPERATIONS AND PROJECTS

Our operations and three advanced projects are grouped regionally as follows:

•

South Africa

•

Continental Africa (Ghana, Guinea, Mali, the Democratic Republic of Congo, Tanzania)

•

Americas (Argentina, Brazil, Colombia and the United States)

•

Australasia (Australia)

Location of AngloGold Ashanti's operations and advanced projects

*Percentages indicate the ownership interest in AngloGold Ashanti, whether held directly or indirectly. All operations are 100%-owned unless otherwise indicated.*

(1)

*Both Morila and Kibali are managed and operated by Randgold Resources Limited.*

(2)

*The process of integrating Great Noligwa into Moab Khotsong began in 2014 and, from an accounting perspective, these operations will be*

*treated as one cash-generating unit from 1 January 2015. This integration process will continue in 2015.*

(3)

*Yatela mine ceased mining in 2014 and is preparing for mine closure.*

(4)

*Includes Mine Waste Solutions (MWS).*

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## THE YEAR IN REVIEW

The AngloGold Ashanti Mineral Resource and Ore Reserve are reported in accordance with the minimum standards described by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 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 and amended July 2009).

The Mineral Resource is inclusive of the Ore Reserve component unless otherwise stated. In complying with revisions to the JORC

Code, changes to AngloGold Ashanti's Mineral Resource and Ore Reserve have been reviewed and it was concluded that none of

the changes are material to the overall valuation of the company. AngloGold Ashanti has therefore once again resolved not to provide

the detailed reporting as defined in Table 1 of the code. The company will however continue to provide the high level of detail it has in

previous years in order to comply with the transparency requirements of the code.

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

This drive is

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

planning, and continual optimisation of its asset portfolio.

## GOLD PRICE

The following local prices of gold were used as a basis for estimation in the December 2014 declaration:

*Local prices of gold*

**South Africa**

**Australasia**

**Brazil**

**Argentina**

**\$/oz**

**ZAR/kg**

**AUD/oz**

**BRL/oz**

**ARS/oz**

2014 Ore Reserve

1,100

398,452

1,261

2,801

8,979

2014 Mineral Resource

1,600

429,803

1,566

3,184

12,319

The JORC and SAMREC Codes require the use of reasonable economic assumptions. These include long-range commodity price

forecasts which are prepared in-house.

## MINERAL RESOURCE

The total Mineral Resource decreased from 233.0Moz in December 2013 to 232.0Moz in December 2014. A gross annual increase of



8.7Moz occurred before depletion and disposals, while the net decrease after allowing for depletion and disposals was 1.0Moz. Changes in economic assumptions from December 2013 to December 2014 resulted in a 6.4Moz decrease in the Mineral Resource, while exploration and modelling resulted in an increase of 14.4Moz. Depletion from the Mineral Resource for the year totalled 5.9Moz and reduction from the sale of Navachab, 3.8Moz. The Mineral Resource was estimated at a gold price of US\$1,600/oz (2013: US\$1,600/oz).

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**8**

GROUP OVERVIEW

*Mineral Resource*

**Moz**

As at 31 December 2013

233.0

Disposal – Navachab

(3.8)

Sub-total

229.2

Depletion

(5.9)

Sub-total

223.3

Additions

Quebradona

Maiden Mineral Resource declaration of the Nuevo Chaquiro deposit

5.5

La Colosa

Mineral Resource growth due to exploration success

5.1

AGA Mineração

Exploration success at all three operations

2.1

Sunrise Dam

Revisions to the modelling approach

1.6

Siguiri

Hard-rock exploration additions from three deposits

1.5

Other

Additions less than 0.5Moz

1.5

Sub-total

240.6

Reductions

Mponeng

Data driven revision to models and Mineral Resource clean up

(3.4)

Kopanang

Mineral Resource clean-up of uneconomic and inaccessible areas

(1.8)

Moab Khotsong

(Including Great Nologwa)

Exploration-driven revisions to models

(1.4)

Geita

Increased costs resulting in reduced pit size

(0.9)

Other

Reductions less than 0.5Moz

(1.1)

As at 31 December 2014

Total

232.0

*Rounding of numbers may result in computational discrepancies.*

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THE YEAR IN REVIEW

continued

ORE RESERVE

The AngloGold Ashanti Ore Reserve reduced from 67.9Moz in December 2013 to 57.5Moz in December 2014. This gross annual decrease of 10.5Moz includes depletion of 4.9Moz and the sale of Navachab, 1.9Moz. The remaining reduction of 3.7Moz in the Ore Reserve resulted from changes to the economic assumptions between 2013 and 2014 which resulted in a reduction of 3.0Moz to the Ore Reserve, while exploration and modelling changes led to the decrease of a further 0.7Moz. The Ore Reserve has been estimated using a gold price of US\$1,100/oz (2013: US\$1,100/oz).

*Ore Reserve*

**Moz**

As at 31 December 2013

67.9

Disposal – Navachab

(1.9)

Sub-total

66.1

Depletion

(4.9)

Sub-total

61.1

Additions

Siguiri

Inclusion of fresh-rock from the Kami deposit

0.6

Sunrise Dam

Exploration success at Vogue

0.4

Other

Additions less than 0.3Moz

1.0

Sub-total

63.1

Reductions

Obuasi

Initial results of feasibility study

(2.6)

Mponeng

Revisions to the Carbon Leader Reef (CLR) and Ventersdorp Contact Reef (VCR) models due to new exploration and development data

(1.3)

Moab Khotsong

(Including Great Nologwa)

New surface exploration data led to revision of the project Zaaiplaats models

(0.8)

CC&V

Increased costs and reduction in submarginal ounces

(0.4)

Other

Reductions less than 0.3Moz

(0.5)

As at 31 December 2014

Total

57.5

*Rounding of numbers may result in computational discrepancies.*

#### BY-PRODUCTS

Several by-products are recovered in the processing of the gold Ore Reserve. The AngloGold Ashanti Ore Reserve includes 55.6kt of

uranium oxide at the South African operations, 0.32Mt of sulphur in Brazil and 25.1Moz of silver in Argentina.

The maiden publication of the Nuevo Chaquiro Mineral Resource added 3.55Mt of copper, 76.5Moz of silver and 62.9kt of molybdenum

to the group's total Mineral Resource.

#### COMPETENT PERSONS

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

or under the supervision of the Competent Persons as defined in the JORC or SAMREC Codes. All Competent Persons are employed

by AngloGold Ashanti, unless stated otherwise, and have sufficient experience relevant to the style of mineralisation and type of

deposit under consideration and to the activity being undertaken. 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. The legal tenure of

each operation and project has been verified to the satisfaction of the accountable Competent Person.

#### MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**10**

During the past decade, the company has developed and implemented a rigorous system of internal and external reviews aimed at providing assurance in respect of Ore Reserve and Mineral Resource estimates. The Mineral Resource and Ore Reserve at the following operations were subject to an external review, in line with the policy that each operation or project will be reviewed by an independent third party on average once every three years:

**•**

Mponeng

**•**

Moab Khotsong

**•**

Iduapriem

**•**

Sunrise Dam

**•**

Cerro Vanguardia

**•**

Serra Grande

**•**

Obuasi

The external reviews were conducted by the following companies: The Mineral Corporation (Mponeng and Moab Khotsong), Coffey

Mining (Iduapriem), Snowden (Sunrise Dam), Optiro (Cerro Vanguardia and Serra Grande), AMEC (Obuasi – Mineral Resource) and

SRK (Obuasi – Mineral Resource and Ore Reserve). Certificates of sign-off have been received from all companies conducting the

external reviews to state that the Mineral Resource and/or Ore Reserve at each operation complies with the JORC Code and the

SAMREC Code.

Numerous internal Mineral Resource and Ore Reserve process reviews were completed by suitably qualified Competent Persons from

within AngloGold Ashanti. A documented chain of responsibility exists from the Competent Persons at the operation to the company's

Mineral Resource and Ore Reserve Steering Committee.

Accordingly, the Chairman of the AngloGold Ashanti Mineral Resource and Ore Reserve Steering Committee, VA Chamberlain, MSc

(Mining Engineering), BSc (Hons) (Geology), MGSSA, FAusIMM, assumes responsibility for the Mineral Resource and Ore Reserve

processes for AngloGold Ashanti and is satisfied that the Competent Persons have fulfilled their responsibilities. VA Chamberlain has

27 years' experience in exploration and mining, is employed full-time by AngloGold Ashanti and can be contacted at the following

address: 76 Jeppe Street, Newtown, 2001, South Africa.

Attributable Inclusive Mineral Resource

– by region

(Moz)

**•**

South Africa

85.6

**•** Continental Africa

64.3

**&#183**

Australasia

9.6

**&#183**

Americas

72.5

Total

232

Attributable Ore Reserve –

by region

(Moz)

**&#183**

South Africa

27.5

**&#183** Continental Africa

18.9

**&#183**

Australasia

3.5

**&#183**

Americas

7.6

Total

57.5

GROUP OVERVIEW

**11**

**GROUP OVERVIEW**

*Mineral Resource by country – inclusive of Ore Reserve (attributable)*

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*South Africa*

Measured

147.19

2.35

345.91

11.12

Indicated

946.99

1.93

1,829.48

58.82

Inferred

47.34

10.31

487.87

15.69

Total

1,141.52

2.33

2,663.26

85.63

*Democratic Republic of Congo*

Measured

3.66

1.92

7.02

0.23

Indicated

63.39

4.08

258.70

8.32

Inferred

29.28

3.56

104.30

3.35

Total

96.32

3.84



370.01

11.90

*Ghana*

Measured

45.94

4.76

218.80

7.03

Indicated

114.54

3.73

427.72

13.75

Inferred

147.31

2.78

410.08

13.18

Total

307.79

3.43

1,056.60

33.97

*Guinea*

Measured

25.03

0.61

15.16

0.49

Indicated

125.20

0.80

100.12

3.22

Inferred

74.94

1.01

75.79

2.44

Total

225.17

0.85

191.06

6.14

*Mali*

Measured

5.32

0.77

4.09

0.13

Indicated

47.54  
1.75  
83.42  
2.68  
Inferred  
6.78  
0.93  
6.32  
0.20  
Total  
59.64  
1.57  
93.82  
3.02  
*Tanzania*  
Measured  
—  
—  
—  
—  
Indicated  
69.00  
3.14  
216.78  
6.97  
Inferred  
19.55  
3.65  
71.38  
2.30  
Total  
88.55  
3.25  
288.17  
9.26  
*Australia*  
Measured  
31.77  
1.43  
45.46  
1.46  
Indicated  
83.83  
2.25  
188.70  
6.07  
Inferred  
23.35  
2.73  
63.84  
2.05

Total  
138.95  
2.14  
298.00  
9.58  
*Argentina*  
Measured  
13.70  
1.50  
20.55  
0.66  
Indicated  
28.49  
2.91  
82.80  
2.66  
Inferred  
6.02  
2.65  
15.97  
0.51  
Total  
48.21  
2.47  
119.32  
3.84  
*Brazil*  
Measured  
19.88  
5.74  
114.18  
3.67  
Indicated  
22.21  
5.49  
121.90  
3.92  
Inferred  
50.06  
5.79  
289.65  
9.31  
Total  
92.15  
5.71  
525.74  
16.90  
*Colombia*  
Measured  
14.80  
0.79

11.62  
0.37  
Indicated  
993.13  
0.83  
822.36  
26.44  
Inferred  
979.16  
0.47  
464.20  
14.92  
Total  
1,987.08  
0.65  
1,298.18  
41.74  
*United States*  
Measured  
236.13  
0.76  
179.96  
5.79  
Indicated  
151.70  
0.67  
101.91  
3.28  
Inferred  
40.80  
0.72  
29.42  
0.95  
Total  
428.63  
0.73  
311.28  
10.01  
Total  
Measured  
543.41  
1.77  
962.74  
30.95  
Indicated  
2,646.03  
1.60  
4,233.89  
136.12  
Inferred  
1,424.57

1.42  
2,018.80  
64.91  
Total  
4,614.01  
1.56  
7,215.43  
231.98

*Rounding of figures may result in computational discrepancies.*

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**12**

*Mineral Resource by country – exclusive of Ore Reserve (attributable)*

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*South Africa*

Measured

15.75

15.17

239.06

7.69

Indicated

251.24

3.49

877.25

28.20

Inferred

13.43

18.32

246.09

7.91

Total

280.43

4.86

1,362.39

43.80

*Democratic Republic of Congo*

Measured

1.99

1.37

2.72

0.09

Indicated

26.23

3.99

104.63

3.36

Inferred

29.28

3.56

104.30

3.35

Total

57.50

3.68

211.65

6.80  
*Ghana*  
Measured  
29.64  
5.85  
173.26  
5.57  
Indicated  
75.35  
3.39  
255.47  
8.21  
Inferred  
146.27  
2.76  
403.56  
12.97  
Total  
251.26  
3.31  
832.29  
26.76  
*Guinea*  
Measured  
—  
—  
—  
—  
Indicated  
54.22  
0.82  
44.19  
1.42  
Inferred  
74.94  
1.01  
75.79  
2.44  
Total  
129.16  
0.93  
119.98  
3.86  
*Mali*  
Measured  
5.16  
0.73  
3.79  
0.12  
Indicated  
19.17

1.64  
31.51  
1.01  
Inferred  
6.78  
0.93  
6.32  
0.20  
Total  
31.11  
1.34  
41.62  
1.34  
*Tanzania*  
Measured  
—  
—  
—  
—  
Indicated  
40.39  
2.98  
120.49  
3.87  
Inferred  
19.55  
3.65  
71.38  
2.30  
Total  
59.94  
3.20  
191.88  
6.17  
*Australia*  
Measured  
3.50  
0.83  
2.89  
0.09  
Indicated  
55.33  
2.18  
120.88  
3.89  
Inferred  
23.35  
2.73  
63.84  
2.05  
Total



82.18

2.28

187.62

6.03

*Argentina*

Measured

4.45

2.08

9.24

0.30

Indicated

24.43

2.36

57.60

1.85

Inferred

6.02

2.65

15.97

0.51

Total

34.90

2.37

82.81

2.66

*Brazil*

Measured

10.22

6.36

65.00

2.09

Indicated

15.38

4.85

74.50

2.40

Inferred

48.75

5.80

282.50

9.08

Total

74.34

5.68

422.00

13.57

*Colombia*

Measured

14.80

0.79

11.62

0.37  
Indicated  
993.13  
0.83  
822.36  
26.44  
Inferred  
979.16  
0.47  
464.20  
14.92  
Total  
1,987.08  
0.65  
1,298.18  
41.74  
*United States*  
Measured  
128.42  
0.74  
95.32  
3.06  
Indicated  
93.27  
0.68  
63.10  
2.03  
Inferred  
30.25  
0.71  
21.56  
0.69  
Total  
251.94  
0.71  
179.98  
5.79  
Total  
Measured  
213.94  
2.82  
602.91  
19.38  
Indicated  
1,648.14  
1.56  
2,571.98  
82.69  
Inferred  
1,377.77  
1.27

1,755.49

56.44

Total

3,239.84

1.52

4,930.39

158.52

*Rounding of figures may result in computational discrepancies.*

GROUP OVERVIEW

**13**

*Ore Reserve by country – attributable*

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*South Africa*

Proved

133.45

0.64

85.20

2.74

Probable

713.99

1.08

768.72

24.71

Total

847.45

1.01

853.92

27.45

*Democratic Republic of Congo*

Proved

2.41

1.76

4.25

0.14

Probable

34.89

4.28

149.44

4.80

Total

37.31

4.12

153.69

4.94

*Ghana*

Proved

17.51

2.78

48.72

1.57

Probable

41.79

4.03

168.56

5.42

Total

59.30

3.66

217.28

6.99

*Guinea*

Proved

25.03

0.61

15.16

0.49

Probable

70.07

0.77

54.29

1.75

Total

95.09

0.73

69.44

2.23

*Mali*

Proved

—

—

—

—

Probable

28.47

1.83

52.09

1.67

Total

28.47

1.83

52.09

1.67

*Tanzania*

Proved

—

—

—

—

Probable

28.61

3.37

96.29

3.10

Total

28.61

3.37

96.29

3.10

*Australia*

Proved

28.27

1.51

42.57

1.37

Probable

28.19

2.38

67.09

2.16

Total

56.46

1.94

109.66

3.53

*Argentina*

Proved

9.76

1.18

11.55

0.37

Probable

6.01

4.78

28.73

0.92

Total

15.77

2.55

40.29

1.30

*Brazil*

Proved

7.17

4.18

29.95

0.96

Probable

8.79

4.76

41.86

1.35

Total

15.96

4.50

71.81

2.31

*United States*

Proved

107.71

0.79

84.64

2.72

Probable

58.07

0.66

38.44

1.24

Total

165.78

0.74

123.07

3.96

Total

Proved

331.30

0.97

322.03

10.35

Probable

1,018.90

1.44

1,465.51

47.12

Total

1,350.20

1.32

1,787.54

57.47

*Rounding of figures may result in computational discrepancies.*

GROUP OVERVIEW

continued

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**14**

GROUP OVERVIEW

**15**



GROUP OVERVIEW

continued

*Reconciliation of Inclusive Mineral Resource (Au content Moz)*

**Sources of change**

**as at 31 December 2014**

**Previous**

**year**

**Depletion**

**Gold**

**price**

**Cost**

**Exploration**

**Metho-**

**dology**

**Acquisition/**

**Disposal**

**Other**

**Current**

**year**

South Africa

Great Noligwa

1.636

–

–

–

–

–

–

(1.636)

–

Kopanang

6.792

(0.265)

–

(1.627)

(0.166)

–

–

–

4.734

Moab Khotsong

20.202

(0.456)

–

(0.149)

(1.115)

(0.283)

–

1.791

19.990

Vaal River Surface

4.626  
 (0.193)  
 -  
 -  
 (0.047)  
 0.090  
 -  
 0.010  
 4.486  
 Mine Waste Solutions  
 2.406  
 (0.135)  
 -  
 -  
 0.006  
 0.118  
 -  
 (0.014)  
 2.382  
 Mponeng  
 52.551  
 (0.458)  
 -  
 (2.188)  
 (0.335)  
 -  
 -  
 (0.902)  
 48.669  
 TauTona  
 4.461  
 (0.245)  
 -  
 (0.439)  
 (0.236)  
 0.057  
 -  
 0.187  
 3.785  
 West Wits Surface  
 1.594  
 (0.027)  
 -  
 -  
 0.004  
 0.019  
 -  
 (0.009)  
 1.581  
 Total  
 94.267

(1.779)  
—  
(4.402)  
(1.889)  
0.002  
—  
(0.573)  
85.626  
Continental Africa  
Kibali  
9.968  
(0.462)  
—  
(0.139)  
0.484  
(0.531)  
0.058  
9.378  
Mongbwalu  
2.518  
—  
—  
—  
—  
—  
—  
2.518  
Iduapriem  
6.338  
(0.187)  
—  
—  
0.305  
0.102  
—  
0.052  
6.611  
Obuasi  
27.395  
(0.362)  
—  
—  
0.053  
0.274  
—  
—  
27.359  
Sigui  
4.927  
(0.284)

-  
(0.261)  
1.588  
-  
-  
0.172  
6.143  
Morila  
0.233  
(0.066)  
-  
-  
-  
0.009  
-  
0.016  
0.193  
Sadiola  
3.099  
(0.094)  
-  
(0.188)  
0.031  
(0.030)  
-  
0.006  
2.824  
Yatela  
0.006  
(0.011)  
-  
-  
-  
-  
0.005  
-  
Navachab  
3.909  
(0.059)  
-  
-  
-  
-  
(3.850)  
-  
-  
Geita  
10.663  
(0.544)  
-

(1.186)  
 0.179  
 0.204  
 -  
 (0.051)  
 9.265  
 Total  
 69.056  
 (2.069)  
 -  
 (1.774)  
 2.640  
 0.029  
 (3.850)  
 0.258  
 64.290  
 Australasia  
 Sunrise Dam  
 3.227  
 (0.287)  
 -  
 -  
 0.118  
 1.491  
 -  
 -  
 4.550  
 Tropicana  
 5.406  
 (0.390)  
 ( 0.008)  
 0.021  
 -  
 -  
 -  
 0.003  
 5.031  
 Total  
 8.633  
 (0.677)  
 ( 0.008)  
 0.021  
 0.118  
 1.491  
 -  
 0.003  
 9.581  
 Americas  
 Cerro Vanguardia  
 4.129  
 (0.266)

—  
(0.005)  
0.142  
(0.165)  
—  
—  
3.836  
AGA Mineração  
11.959  
(0.481)  
—  
0.079  
1.459  
(0.209)  
—  
0.796  
13.601  
Serra Grande  
2.989  
(0.148)  
—  
—  
0.225  
—  
—  
0.235  
3.302  
Gramalote  
3.088  
—  
—  
—  
—  
—  
—  
3.088  
La Colosa  
28.053  
—  
—  
—  
5.092  
—  
—  
—  
33.145  
Quebradona  
—  
—  
—

—  
5.504  
—  
—  
5.504  
Cripple Creek and Victor  
10.842  
(0.474)  
—  
(0.343)  
0.060  
(0.067)  
—  
(0.010)  
10.008  
Total  
61.061  
(1.370)  
—  
(0.269)  
12.481  
(0.441)  
—  
1.021  
72.484  
Grand total  
233.017  
(5.894)  
(0.008)  
(6.425)  
13.351  
1.081  
(3.850)  
0.709  
231.982

*Rounding of figures may result in computational discrepancies.*

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**16**

**Net diff**

%

**Comments**

(1.64)

(100)

Transferred entire Mineral Resource from Great Nologwa mine to Moab Khotsong mine.

(2.06)

(30)

Decrease in the Mineral Resource due to clean up of uneconomic and inaccessible areas as well as slight value drop.

(0.21)

(1)

Geological model changes driven by surface drilling resulted in structure and estimation domain changes which was offset by the transfer in

from Great Nologwa.

(0.14)

(3)

Changes are due to waste rock dumps and sulphur paydam depletions offset by additions to tailings storage facilities and waste rock dumps.

Aerial survey volume adjustments to waste rock dump material are also included.

(0.02)

(1)

Changes due to processing of Hartebeesfontein, Buffelsfontein and Ellaton tailings storage facilities through the Mine Waste Solutions plant

(depletion).

(3.88)

(7)

Decrease in CLR due to new geological model offset by transfer of some ground from TauTona. Mineral Resource clean up of the VCR

(uneconomic and inaccessible areas) offset by a value increase in below 120 level and Western Ultra Deep Levels (WUDLs).

(0.68)

(15)

Depletion, Mineral Resource transfers to Mponeng as well as Mineral Resource clean up and a slight drop in value accounts for the change.

(0.01)

(1)

Depletion occurred from the Mponeng and Savuka waste rock dumps. Additions were due to deposition on the Mponeng waste rock dump

and tailings storage facilities growth due to deposition of plant residue.

(8.64)

(9)

(0.59)

(6)

New exploration data resulted in updates to the ore zones at Karagba, Chauffeur and Durba deposit and Gorumbwa.

–

–

Mineral Resource unchanged.

0.27

4

Growth due to the addition of new Inferred Mineral Resource additions from Block 3W and Block 5.

(0.04)



(0)

Changes due to remodelling and depletion from mining.

1.22

25

Losses due to increase in costs and depletion offset by declaration of the maiden fresh-rock Mineral Resource at Kami, Bidini and Sorofe.

(0.04)

(17)

Small changes due to remodelling.

(0.28)

(9)

Increased mining costs resulted in smaller Mineral Resource shells.

(0.01)

(100)

Cessation of mining and preparing for mine closure.

(3.91)

(100)

The Navachab operation was sold.

(1.40)

(13)

Negative changes largely due to increased costs affecting Mineral Resource pit shells and cut-off grades at the Nyankanga and Geita Hill pits.

(4.77)

(7)

1.32

41

Surface Mineral Resource change is due to depletion from stockpiles to supplement underground mill feed during the year. Increase in

underground Mineral Resource is due to changes in grade control sampling and modelling, Mineral Resource estimation approach and

reporting.

(0.37)

(7)

Major change is depletion, slightly offset by lower cut-off grade for open pit.

0.95

11

(0.29)

(7)

Mainly depletions.

1.64

14

For Cuiabá, the main additions are for the Fonte Grande Sul deep orebody, Galinheiro Footwall orebody and addition of the sill pillars.

Losses are related to tonnage decrease due to reduced ore zone thickness and the density estimation procedure.

Lamego had additions by

exploration at Carruagem and also some model changes to delineate a higher grade Mineral Resource inside the total mineralised structure.

At Córrego do Sítio the main additions were in the Sangue de Boi and Sao Bento sulphide orebodies, and for the Rosalino and Pinta Bem

oxide orebodies.

0.31

10

The Mineral Resource increased due to the continuing additions from the Inga orebody as well as opportunities recognised in the Mina III.

–

–

Mineral Resource unchanged.

5.09

18

Growth due to exploration success which drove the orebody to the north-east and to depth.

5.50

100

Maiden Nuevo Chaquiro Inferred Mineral Resource – delivered by greenfields exploration success.

(0.83)

(8)

The Mineral Resource was impacted by increased operating costs associated with implementation of selective mining and mill operations.

Model precision was increased at the heap leach ore cut-off to reduce ore tonnage risk. Waste dump construction negatively impacted

Mineral Resource at depth in Altman and Wild Horse.

11.42

19

(1.04)

(0)

GROUP OVERVIEW

17

*Reconciliation of Ore Reserve (Au content Moz)*

**Sources of change**

**as at 31 December 2014**

**Previous**

**year**

**Depletion**

**Model**

**change**

**Change in**

**economics**

**New ounces**

**from projects**

**Scope**

**change**

**Acquisition/**

**Disposal**

**Other**

**Current**

**year**

South Africa

Great Noligwa

0.478

–

–

–

–

–

–

(0.478)

–

Kopanang

1.455

(0.160)

0.065

–

–

(0.057)

–

(0.055)

1.248

Moab Khotsong

6.122

(0.323)

(0.606)

–

–

0.069

–

0.220

5.482

Vaal River Surface

4.460  
 (0.171)  
 0.008  
 (0.106)  
 –  
 –  
 –  
 0.013  
 4.204  
 Mine Waste Solutions  
 2.248  
 (0.121)  
 0.069  
 –  
 –  
 –  
 (0.001)  
 2.195  
 Mponeng  
 14.567  
 (0.363)  
 (1.267)  
 –  
 0.318  
 (0.326)  
 –  
 –  
 12.929  
 TauTona  
 1.388  
 (0.230)  
 (0.165)  
 –  
 –  
 0.211  
 –  
 –  
 1.203  
 West Wits Surface  
 0.184  
 (0.027)  
 (0.019)  
 –  
 0.063  
 –  
 –  
 (0.009)  
 0.193  
 Total  
 30.901

(1.394)  
(1.915)  
(0.106)  
0.381  
(0.103)  
—  
(0.310)  
27.454  
Continental Africa  
Kibali  
5.166  
(0.297)  
(0.004)  
(0.021)  
0.097  
—  
—  
—  
4.941  
Iduapriem  
1.971  
(0.174)  
(0.006)  
(0.153)  
0.004  
0.052  
—  
0.005  
1.699  
Obuasi  
8.141  
(0.233)  
—  
(2.383)  
—  
(0.260)  
—  
0.021  
5.286  
Siguiri  
1.842  
(0.202)  
(0.053)  
0.069  
0.536  
0.017  
—  
0.024  
2.233  
Morila  
0.044

(0.048)

0.086

—

—

(0.002)

—

0.019

0.100

Sadiola

1.432

(0.093)

(0.076)

0.267

—

(0.040)

—

0.085

1.575

Navachab

1.918

(0.045)

—

—

—

—

(1.873)

—

—

Geita

3.899

(0.546)

(0.050)

(0.284)

—

—

—

0.077

3.096

Total

24.413

(1.636)

(0.103)

(2.506)

0.636

(0.233)

(1.873)

0.232

18.930

Australasia

Sunrise Dam

1.177

(0.306)

—

—

0.391

0.024

—

—

1.287

Tropicana

2.630

(0.386)

—

(0.004)

—

—

—

2.239

Total

3.807

(0.692)

—

(0.004)

0.391

0.024

—

—

3.526

Americas

Cerro Vanguardia

1.570

(0.279)

0.156

0.039

—

(0.191)

—

—

1.295

AGA Mineração

1.971

(0.432)

(0.003)

0.051

0.051

(0.018)

—

0.192

1.811

Serra Grande

0.566

(0.148)  
0.026  
0.010  
—  
0.040  
—  
0.004  
0.497  
Cripple Creek and Victor  
4.710  
(0.362)  
0.098  
(0.495)  
0.006  
—  
—  
—  
3.957  
Total  
8.817  
(1.221)  
0.276  
(0.395)  
0.057  
(0.169)  
—  
0.196  
7.561  
Grand total  
67.938  
(4.943)  
(1.742)  
(3.011)  
1.465  
(0.480)  
(1.873)  
0.118  
57.471

*Rounding of figures may result in computational discrepancies.*

GROUP OVERVIEW

continued

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**18**



**Net diff**

%

**Comments**

(0.48)

(100)

With the integration of Great Noligwa into the greater Moab Khotsong, the entire Ore Reserve was transferred to Moab Khotsong.

(0.21)

(14)

Depletions with slight geological model changes reduced the Ore Reserve.

(0.64)

(10)

Model changes (geological structure and facies changes) in the Zaaipplaats (PZ2) area and Middle mine resulted in a reduction in overall Ore

Reserve, despite the transfer in from Great Noligwa.

(0.26)

(6)

Changes are mainly due to depletions and a reduction in grade from the marginal ore material.

(0.05)

(2)

Changes are due to depletions which were slightly offset with a small increase in tonnages in the estimated Ore Reserve.

(1.64)

(11)

The reduction is mainly due to the latest Mineral Resource model reductions, with a portion of old Savuka Ore Reserve being transferred to

TauTona.

(0.18)

(13)

The Ore Reserve was negatively impacted by changes in the Mineral Resource model.

0.01

5

Additional tailings material has been included in the Ore Reserve and will be processed through the Savuka plant.

Further changes are attributable to depletion.

(3.45)

(11)

(0.23)

(4)

Mainly depletions.

(0.27)

(14)

The main reason for the reduction in the Ore Reserve was depletion with additional losses due to increased costs.

(2.86)

(35)

Change in the mine design due to reductions in price, increase in the cut-off grade, removal of incremental and marginal all served to reduce

the Ore Reserve. Increases in dilution percentages reduced grade of significant number of stopes below the cut-off grade causing a further

reduction. These changes were all the result of the initial phase of the feasibility study currently underway.

0.39

21

Gains due to reduction in cost, the inclusion of the hard-rock project and some scope changes offset the depletion and minor model changes.

0.06

126

Model changes due to conversion of Mineral Resource to Ore Reserve, depletions due to ore mined from the pit and material from the tailings storage facility wall B.

0.14

10

Key changes to the Ore Reserves are the completion of FE4 and Tambali, model update and cut-off grade change due to a reduced cost structure. The stockpiles have been depleted, as well as a material changes due to change in economics, updated survey and updated drilling results.

(1.92)

(100)

The Navachab operation was sold.

(0.80)

(21)

Changes in economic parameters and model changes from Nyankanda and Geita Hill pits had a significant negative impact on the Ore Reserve as did depletion. Higher contract cost assumptions for ore mining and hauling cost has had a negative impact on satellite pits.

(5.48)

(22)

0.11

9

The surface Ore Reserve reduced due to depletion of stockpiles to supplement underground mill feed. Overall Ore Reserve ounces increased due to the release of the Vogue domain geological model and the increase in the Mineral Resource in other domains via grade control drilling.

(0.39)

(15)

Major changes are depletion and a change in cutoff grade for reporting of transported, upper saprolite and transitional material.

(0.28)

(7)

(0.27)

(18)

The method of estimation of the Ore Reserve for open pit and heap leach material was changed. Model changes occurred at Cuncuna, Osvaldo Diez and Vanguardia 3. Economic changes include change of the local gold price and the operating cost. Scope changes were a results of the estimation method change.

(0.16)

(8)

At the Cuiabá mine, the model changes were due to a combination of positive exploration countered by higher selectivity and kriging of the density; change in economics resulted from a review of the cut-off grades; scope changes resulted as a consequence of changing the mining

method from cut and fill to long hole stoping in some areas. For the Lamego mine, their were significant exploration addition and these were countered by changes in the evaluation methodology. At Córrego do Sítio additions came from the São Bento mine and for the surface mine the positive effects of FOREX variations and the review of contract mining costs, added to the Ore Reserve and compensated for depletion.

(0.07)

(12)

Upgrade of Mineral Resource at Pequizão and Mina III allowed for an increased Ore Reserve. Revised costs re-allocation benefited the Ore

Reserve at Mina III (and decreasing the Ore Reserve at Mina Nova); at Mina III the inclusion of pillars for reclaiming added further to the Ore

Reserve.

(0.75)

(16)

Model changes utilised the single ore percent model. Model changes resulted from updated variography, composite precision, and exploration drilling.

Updated costs to actuals and for mining streams contributed to the loss due to economics.

(1.26)

(14)

(10.47)

(15)

GROUP OVERVIEW

**19**

P20-57

20

Regional overview

22

South Africa

24

Kopanang

28

Moab Khotsong

34

Mponeng

44

TauTona

49

Surface Operations

56

Uranium

The South African region

includes four deep-level

mines and its surface

operations.

CAPTION: Infrastructure at Moab Khotsong

mine

Contribution to regional production – 2014

**&#183**

Kopanang

11

**&#183** Moab Khotsong (incl. Great Noligwa) 26

**&#183**

Mponeng

26

**&#183**

TauTona

19

**&#183**

Surface operations

18

%

Contribution to group production – 2014

**&#183**

South Africa

28

**&#183** Rest of AngloGold Ashanti

72

%

IMPLEMENTING

NEW

TECHNOLOGY TO

SAFELY MINE,

ALL OF THE

GOLD, ONLY THE

GOLD, ALL OF  
THE TIME  
SOUTH AFRICA  
MINERAL RESOURCE AND ORE RESERVE REPORT  
**2014**  
**20**

SOUTH AFRICA

continued

Regional overview

SOUTH AFRICA

As at December 2014, AngloGold Ashanti's operations in South Africa had a total Mineral Resource (inclusive of the Ore Reserve) of 85.63Moz (2013: 94.27Moz) and an Ore Reserve of 27.45Moz (2013: 30.90Moz).

This is equivalent to around 37% and 48% of the group's Mineral Resource and Ore Reserve respectively. The South African operations

produced 1.2Moz of gold in 2014, or 28% of group production, and 1.31Mlb of uranium oxide.

AngloGold Ashanti's South Africa operations comprise four deep-level underground mines and three surface processing entities,

collectively referred to as Surface Operations.

*Inclusive Mineral Resource*

**South Africa**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

147.19

2.35

345.91

11.12

Indicated

946.99

1.93

1,829.48

58.82

Inferred

47.34

10.31

487.87

15.69

Total

1,141.52

2.33

2,663.26

85.63

*Exclusive Mineral Resource*

**South Africa**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

15.75

15.17

239.06

7.69

Indicated

251.24

3.49

877.25

28.20

Inferred

13.43

18.32

246.09

7.91

Total

280.43

4.86

1,362.39

43.80

*Ore Reserve*

**South Africa**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*South Africa region*

Proved

133.45

0.64

85.20

2.74

Probable

713.99

1.08

768.72

24.71

Total

847.45

1.01

853.92

27.45

Great  
Noligwa  
West Wits  
Surface  
TauTona  
Vaal River  
Surface  
Kopanang  
Moab  
Khotsong  
Mponeng  
Mine Waste  
Solutions  
Mine Waste  
Solutions  
Moz  
60  
50  
40  
30  
20  
10  
0  
December 2013  
December 2014  
South Africa Mineral Resource – attributable  
Per operation/project  
Moz  
16  
14  
12  
10  
8  
6  
4  
2  
0  
Great  
Noligwa  
West Wits  
Surface  
TauTona  
Vaal River  
Surface  
Kopanang  
Moab  
Khotsong  
Mponeng  
December 2013  
December 2014  
South Africa Ore Reserve – attributable



Per operation/project

**21**

SOUTH AFRICA

continued

Regional overview

Operations

0

400km

**SOUTH AFRICA**

West Wits operations

Mponeng

TauTona

Surface operations

Vaal River operations

Kopanang

Moab Khotsong

(1)

Surface operations

(2)

Durban

Bloemfontein

Pretoria

Johannesburg

Carletonville

Klerksdorp

East London

Port Elizabeth

Cape Town

North West

Free State

**COUNTRY OVERVIEW**

All four underground operations are 100% owned by AngloGold Ashanti. The mining operations are all located within the Witwatersrand

Basin and are in two mining districts, the Vaal River and West Wits areas.

**&#183**

The Vaal River operations consist of the Kopanang and Moab Khotsong mines (Great Noligwa has been incorporated with Moab

Khotsong) and are situated near the town of Klerksdorp. The primary reefs mined by these operations are the Vaal Reef (VR) and

the secondary Crystalkop Reef (C Reef).

**&#183**

The West Wits operations consist of the Mponeng and TauTona mines and are situated near the town of Carletonville. The primary

reefs mined by these operations are the Carbon Leader Reef (CLR) and the Ventersdorp Contact Reef (VCR).

The Surface Operations include the Vaal River Surface, Mine Waste Solutions (MWS) and the West Wits Surface processing operations

that re-work and retreat the waste rock dumps and tailings dams which result from the mining and processing of the primary and

secondary reef horizons.

At the South African operations, a sequential and/or scattered grid mining method is employed to extract the gold in the deep, narrow,

tabular orebodies. The grid is pre-developed through a series of haulages and crosscuts. Stopping takes place by means of breast

mining using conventional drill and blast techniques. The smallest mining unit (SMU) is 100m x 100m.

(1)

*Great Noligwa was included in the Moab Khotsong operation in 2014.*

(2)

*Includes Mine Waste Solutions (MWS).*

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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## MINERAL RESOURCE ESTIMATION

The sampling data used in Mineral Resource estimation includes underground chip samples, underground drill-holes and surface drill-

holes. All sample locations are reported as a composite over a mineralised width, resulting in a single channel width (cm) and metal

accumulation (cm.g/t) value.

AngloGold Ashanti makes use of a Bayesian geostatistical approach where, in the absence of dense sampling data, gold estimations

are based on a combination of the observed data and external knowledge relating to the data. A Bayesian geostatistical approach

asserts that the area to be evaluated forms part of a larger continuous entity, to which the observed data belongs.

Mixed support Co-Kriging is used in the estimation of the Mineral Resource for all South African underground operations. It is a

technique that enables the use of data of mixed support, allowing both drill-hole and underground sampling data to be used together.

Estimation is performed into large block sizes, generally >210m x 210m, which fully capture the within-block variance, allowing the Co-

Kriging of data of different support sizes over long ranges. Estimation is done per geological homogeneous zone, in logarithmic space,

because of the highly skewed gold distribution. The final gold estimates are then calculated by back transforming the estimates, using

lognormal four parameter distribution models. Simple Kriging is used for grade control and Measured Mineral Resource at a 30m x

30m block size and constrained by the weight of the mean value.

The Mineral Resource is initially reported as inclusive of the Ore Reserve as it forms the basis for the Ore Reserve conversion process.

Mineral Resource cut-off grades are computed for each operation, by reef horizon. These cut-off grades incorporate a profit margin

that is relevant to the business plan. Grade tonnage curves are produced for each operation, which show the potential of the deposit

at different cut-off grades.

## ORE RESERVE ESTIMATION

Mine design delineates the mining areas and supporting development for each mining level and section, usually by extrapolating the

existing mining design. The *in situ* Mineral Resource is scheduled monthly for the full life of mine plan. The value estimates for these

schedules are derived from the Mineral Resource model.

Modifying factors are applied to the *in situ* Mineral Resource to arrive at an Ore Reserve estimate. These factors include a dilution factor

to accommodate the difference between the milling width and the stoping width, as well as the mine call factor (MCF).

Development sampling results from January – December 2014

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

the Ore Reserve.

## Statistics are shown in metric units

**Advanced**

**metres**

**(total) \***

**Sampled**

**metres**

**Ave. channel  
width  
(cm)**  
**Sampled gold**  
**Sampled uranium**  
**Avg. g/t**  
**Avg. cm.g/t**  
**Avg. kg/t**  
**Avg. cm.kg/t**  
 South Africa  
*Vaal River*  
 Great Nologwa mine  
 Crystalkop Reef  
 514.3  
 136.0  
 30.9  
 17.48  
 540  
 0.55  
 16.81  
 Vaal Reef  
 632.4  
 56.0  
 46.1  
 45.62  
 2,103  
 2.63  
 31.54  
 Kopanang mine  
 Vaal Reef  
 9,680.5  
 1,450.0  
 17.6  
 69.38  
 1,221  
 5.11  
 89.45  
 Moab Khotsong mine  
 Vaal Reef  
 7,150.6  
 738.0  
 127.2  
 27.78  
 3,533  
 1.26  
 157.65  
*West Wits*  
 Mponeng mine  
 Ventersdorp Contact Reef  
 7,131.7  
 1,442.0

66.6

19.91

1,326

—

—

TauTona mine

Carbon Leader Reef

6,591.2

750.0

28.7

92.44

2,653

0.82

23.07

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

SOUTH AFRICA

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SOUTH AFRICA

continued

Kopanang

INTRODUCTION

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

town of Orkney. The current mining lease encompasses an area of 35km

2

and is bound by Great Nologwa to the east, China African

Precious Metals to the north and the Jersey fault (1,000m displacement) to the south. South-west of the mining lease the orebody is

uneconomic to mine and no extension beyond the current lease is envisaged.

Shaft sinking was initiated in 1977 and completed by 1981 with production beginning in 1984. Two gold-bearing reef horizons are

accessed via a twin-shaft system which descends to a maximum depth of 2,334m, while the main working levels are situated between

1,300m and 2,064m below surface. A sequential grid mining layout is used from which scattered mining takes place.

GEOLOGY

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

events. The VR is the principal economic horizon at Kopanang 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 lies approximately 265m below the C Reef. The two tabular bodies are both

gold- and uranium-bearing, currently only the VR is mined, with limited C Reef mining planned during the life of mine. The C Reef is

accessible through the VR infrastructure. These conglomerate units dip at an average of 21° towards the south and occur in a 2,100m

thick sedimentary sequence comprising the Central Rand Group.

Mining is complicated by the presence of an assortment of steep (85°– 50°) north-dipping and younger low-angle (50°–15°) south-

dipping faults. The interplay of these main fault regimes, along with abundant pre- and post-dating dykes, makes for a complex and

geologically challenging deposit.

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

model thus subdivides the VR into homogeneous zones – referred to as geozones, facies or estimation domains (EDs), based on

geological and grade characteristics.

**North West Province**

N

**Free State Province**

Klerksdorp

Orkney

Village Main Reef

Hartebeestfontein

Stilfontein

Village Main Reef

Buffelsfontein

China African  
Precious Metals  
Weltevreden  
Vaal River  
Village Main Reef  
Tau Lekoa  
Village Main Reef  
Border

**Great Noligwa**

**Moab**

**Khotsong**

**Kopanang**

Kilometres

0

1

2

3

4

MINERAL RESOURCE AND ORE RESERVE REPORT

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MINERAL RESOURCE

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

**Kopanang**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

5 x 5

-

-

-

X

-

Chip sampling

Stoping

Indicated

100 x 100

X

-

-

-

-

Underground

drilling

Inferred

1,000 x 1,000

X

-

-

-

-

Surface drilling

Grade/Ore control

-

-

-

X

-

See Measured

Category

*Inclusive Mineral Resource*

**Kopanang**

**Tonnes**

**Grade**

**Contained gold**

as at 31 December 2014

Category

million

g/t

Tonnes

Moz

*Crystalkop Reef*

Measured

0.06

11.72

0.72

0.02

Indicated

0.55

11.27

6.15

0.20

Inferred

0.25

16.04

4.04

0.13

Total

0.86

12.70

10.91

0.35

*Vaal Reef Base*

Measured

2.66

14.65

38.94

1.25

Indicated

4.83

14.51

70.04

2.25

Inferred

0.93

21.75

20.31

0.65

Total

8.42

15.36

129.29

4.16

*Vaal Reef Above Infrastructure*

Measured

—

—  
—  
—  
Indicated  
0.62  
11.23  
7.02  
0.23  
Inferred  
0.00  
8.26  
0.01  
0.00  
Total  
0.63  
11.23  
7.03  
0.23  
Kopanang  
Total  
9.90  
14.86  
147.23  
4.73

#### EXPLORATION

In 2014, no Mineral Resource generating exploration drilling was conducted at Kopanang or on properties adjacent to Kopanang.

Exploration was focused on supporting the business plan development and stoping by increasing the geological confidence of the

Inferred and Indicated Mineral Resource.

#### PROJECTS

##### New Technology Reef Boring Project

The reef-boring project at Kopanang is focused on improving the current mining method so as to better extract the thin- and lower-

value reefs. Aims of the new technology are to increase productivity, improve gold recovery, reduce development costs and improve

safety. Testing of the reef-boring initiative is continuing on the 42 level at Kopanang.

#### SOUTH AFRICA

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*Exclusive Mineral Resource*

**Kopanang**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

0.91

26.09

23.72

0.76

Indicated

1.36

30.52

41.56

1.34

Inferred

1.05

22.05

23.17

0.74

Total

3.32

26.63

88.45

2.84

The Exclusive Mineral Resource has been reduced by 1Moz year on year as a result of a detailed programme to identify uneconomic and inaccessible areas. The current Exclusive Mineral Resource can be attributable to design and schedule losses, areas for investigation for future inclusion in the Ore Reserve and marginal gold mineralisation.

*Mineral Resource below infrastructure*

No Mineral Resource is reported below infrastructure.

**ORE RESERVE**

*Ore Reserve*

**Kopanang**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Crystalkop Reef*

Proved

0.01

3.83

0.03

0.00

Probable

0.46

5.27

2.42

0.08

Total

0.47

5.24

2.45

0.08

*Vaal Reef Base*

Proved

1.80

5.99

10.80

0.35

Probable

4.18

6.12

25.58

0.82

Total

5.98

6.08

36.37

1.17

Kopanang

Total

6.45

6.02

38.83

1.25

SOUTH AFRICA

continued

Kopanang

6.79

-0.26

0.00

-1.63

-0.17

0.00

-0.00

0.00

4.73

Ounces

(millions)

7.0  
6.5  
6.0  
5.5  
5.0  
4.5  
4.0

–  
–  
–  
–  
–  
–

2013  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
disposals

2014

**Kopanang**

Mineral Resource reconciliation: 2013 to 2014

1.45  
-0.16  
0.06  
0.00  
0.00  
-0.06  
-0.05  
0.00  
1.25  
Ounces  
(millions)  
1.50  
1.45  
1.40  
1.35  
1.30  
1.25  
1.20  
1.15

–  
–  
–

—  
—  
—  
—

2013

Deple-  
tion

Model  
change

Change in  
economics

New  
ounces

from  
projects

Scope  
change

Other

Acquisition/  
disposal

2014

**Kopanang**

Ore Reserve reconciliation: 2013 to 2014

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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*Ore Reserve modifying factors*

**Kopanang**

**Gold**

**price**

**Cut-off**

**grade**

**Cut-off**

**value**

**Stoping**

**width**

**Dilution**

**Diluted**

**MCF MetRF**

**31 December 2014**

**ZAR/Kg**

**g/t Au**

**cm.g/t Au**

**cm**

**%**

**g/t**

**%**

**%**

Crystalkop Reef

398,452

9.08

1,000

110.1

60.9

8.16

60.0

94.4

Vaal Reef Base

398,452

9.49

1,000

105.4

54.4

7.25

68.0

94.3

*Inferred Mineral Resource in business plan*

**Kopanang**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**



Crystalkop Reef

0.06

9.56

0.58

0.02

*In situ* Content

Vaal Reef Base

0.08

8.11

0.62

0.02

*In situ* Content

Total

0.14

8.75

1.20

0.04

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

This accounts for 2% of the business plan.

*Ore Reserve below infrastructure*

No Ore Reserve is reported below infrastructure.

COMPETENT PERSONS

**Kopanang**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

Brenda Freese

SACNASP

400294/14

17 years

BSc Hons (Geology)

GDE (Mineral Economics)

Ore Reserve

Pieter Enslin

PLATO

PMS 0183

32 years

HND (Mineral Resource

Management)

MSCC

GDE (Mineral Economics)

0

2

4  
6  
8  
10  
12  
14  
16  
18  
20  
T

tonnes above cut-off (millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

30

28

26

24

22

20

18

16

14

12

10

9

8

7

6

5

4

3

2

0

Tonnes above cut-off

Ave grade above cut-off

**Kopanang**

Grade tonnage curve – Underground (metric)

–

–

–

–

–

–

–

–

–

SOUTH AFRICA



## INTRODUCTION

Moab Khotsong (Great Nologwa was included in the Moab Khotsong operation in 2014), is situated near the towns of Orkney and

Klerksdorp, about 180km south-west of Johannesburg. The mining lease area lies to the south-east of the Kopanang mine. Moab

Khotsong, a relatively new mine, produced its first gold in 2003.

The mine exploits three distinct portions of the Moab Khotsong lease area, namely the Top mine (above 85 level), the Middle

mine (85 to 101 level) and the Lower mine (101 to 118 level). The Middle mine exploits the Vaal Reef (VR) to depths of between

2,600m and 3,054m below surface on the down-thrown side of the De Hoek and Jersey fault complex. The Lower mine exploits

the Vaal Reef (VR) to depths of between 3,400m and 4,000m below surface on the down-thrown side of the Jersey fault.

In 2014, Great Nologwa was included in that part of Moab Khotsong known as the Top mine which exploits VR and C Reef at

depths of between 1,500m and 2,600m below surface.

The extension of the Moab Khotsong mine to the down-thrown side of the fault complex is strategic because the life of the Vaal River

operations could be increased significantly. Moab Khotsong was developed so that it would be well positioned to exploit surrounding

ore blocks. The most important of these blocks is the Zaaiplaats blocks to the south-west of the current Moab Khotsong infrastructure

and extending some 400m deeper than the existing mine.

Mining at Moab Khotsong is based on a scattered mining method together with an integrated backfill support system that incorporates

bracket pillars.

## GEOLOGY

The VR is the principal economic horizon at Moab Khotsong 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 lies approximately 265m below the C Reef.

The VR unit can reach a maximum thickness of 2m and consists of a thin basal conglomerate (the C facies) and a thicker sequence

of upper conglomerates (the A facies). These two sedimentary facies are separated by the B facies, which is a layer of barren

orthoquartzite. A facies is the principal economic horizon within the VR, but remnants of the C facies are sporadically preserved below

the A facies. High gold values in the VR are often located at the base of this unit and are associated with high uranium values as well

as with the presence of carbon. Uranium is a very important by-product.

The C Reef is mined on a limited scale only in the Top mine, in the central part where a high-grade, north-south orientated sedimentary

channel, containing two economic horizons, has been exposed. To the east and the west of this channel, the C Reef is poorly

developed with relatively small areas of economic interest. As with the VR, high uranium values are also often associated with high gold

values and the presence of a 5mm to 2cm thick carbon seam at the base of the conglomerate. To the north of the mine, the C Reef

sub-crops against the Gold Estates Conglomerate Formation and, in the extreme south of the mine, the C Reef has been eliminated by a deep Kimberley erosion channel and the Jersey fault. Although the C Reef is preserved in the eastern parts of the Middle mine no development or stoping has taken place on the C Reef to date.

A geological model is employed to delineate variations (either lateral or vertical) in characteristics of the VR. The current geological model thus subdivides the VR into homogeneous zones (referred to as geozones, facies or EDs) based on geological and grade characteristics.

The geology at Moab Khotsong is structurally complex with large fault-loss areas. The geological setting 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 De Hoek and Buffels East faults structurally bound the reef blocks of the Middle mine to the north-west and

south-east respectively and the northern boundary is a north-dipping fault. Drilling is currently taking place in the Middle mine area to

obtain structural information below 101 level.

Given the magnitude of the displacement across the De Hoek fault (more than 700m down to the south), geological structures

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

It is only once the development is through the De Hoek fault that geological mapping information will 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.

SOUTH AFRICA

continued

Moab Khotsong

MINERAL RESOURCE AND ORE RESERVE REPORT

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## EXPLORATION

Brownfields exploration is focused on improving confidence in the geological model. One surface drilling machine and eight

underground drilling machines were in operation during 2014.

Drilling of the surface drill-hole MZA10 began in March 2014 and will increase structural and grade confidence in the Zaaiplaats project

area. Information from this hole will support structural clarity in an area of lower seismic confidence resulting from surface interference

from the Mercator Transformer station in the seismic data set obtained in 2012. MZA10 is well ahead of schedule and continues to

achieve exceptional drilling advances. A VR intersection is expected in the second quarter of 2015.

Eight underground diamond drilling (DD) machines are currently deployed to carry out capital drilling on the Top, Middle and Lower mines.

This drilling is primarily used to obtain structural and grade information aimed at increasing the Mineral Resource base of Moab Khotsong.

Two drilling rigs are currently deployed in the Top mine to obtain structural information on the VR blocks below 76 level. Three drilling rigs

are deployed in the Middle mine to obtain structural information on the VR blocks below 101 level while three drill rigs are located in the

Middle mine to obtain structural information on both the VR and C Reef horizons in the eastern area of the mine.

Three drilling rigs were deployed to carry out capital drilling associated with the Zaaiplaats project. One pneumatic machine was used

to drill for cover and two rigs were used to drill for exploration for long inclined boreholes (LIB). The primary purpose of the drilling

was to improve confidence in both geological and grade distribution in the Zaaiplaats block. A total of four underground LIBs were

completed. Two of the four LIB drill-holes (LIB78 and LIB79) were completed in the first quarter of 2014 and successfully intersected

the VR horizon. Two additional LIBs (LIB86 and LIB87) were drilled to prove the block of ground above 101 level and both holes failed

to intersect the VR. Drilling was completed during August 2014 and two LIB machines were re-deployed to Middle mine below 101

level drilling and the pneumatic machine was decommissioned.

## PROJECTS

The initial development of Moab Khotsong was taken with a view that the new mine would be well positioned to facilitate the

exploitation of additional ore blocks adjacent and contiguous to current mining areas. The most important of these blocks is the

Zaaiplaats blocks, positioned to the south-west of the current Moab Khotsong infrastructure and extending below the existing mine.

The Moab Khotsong Top and Middle mines are expected to produce some 2.1Moz of gold. Zaaiplaats will provide an additional

3.3Moz, of gold, extending the mine's life to approximately 2040. The seismic survey interpretation and new drilling information

incorporated into the geological model in the first quarter of the year resulted in a total reduction in gold of 1.12Moz in the Zaaiplaats

project area (0.39Moz and 0.73Moz in phase 2 and phase 3 respectively).

Based on the company's capital rationalisation needs in 2013, board approval was granted for project deferral. In alignment with the

latest 2015 business plan, the project recommencement date is scheduled for January 2017.

Additional study work began in the third quarter of 2014, taking into account the new geological information as well as trade-offs with alternative investment opportunities such as the Middle mine below 101 extension. The study will investigate the optimum growth opportunity for Moab Khotsong in accessing the Zaaipplaats orebody and the Middle mine below 101 level extension from a single common infrastructure. Report back on the study outcome is planned for early 2015.

MINERAL RESOURCE

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

**Moab Khotsong**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

5 x 5

—

—

—

—

Chip sampling

Stoping

Indicated

100 x 100,

800 x 800

—

—

—

—

Underground

drilling

Inferred

1,000 x 1,000

—

—

—

—

Surface drilling

Grade/Ore control

—

—

—

—

See Measured

Category

SOUTH AFRICA





*Inclusive Mineral Resource*

**Moab Khotsong**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Vaal Reef Lower mine – Area A*

Measured

–

–

–

–

Indicated

0.20

18.89

3.86

0.12

Inferred

1.35

14.99

20.26

0.65

Total

1.56

15.50

24.13

0.78

*Vaal Reef Lower mine – Area B*

Measured

–

–

–

–

Indicated

4.76

8.30

39.53

1.27

Inferred

1.41

8.61

12.14

0.39

Total

6.17

8.37

51.68

1.66

*Vaal Reef Lower mine – Area C*

Measured

–

–

–

–

Indicated

1.45

13.33

19.37

0.62

Inferred

2.25

12.12

27.30

0.88

Total

3.71

12.60

46.68

1.50

*Vaal Reef Lower mine – Zaaiplaats*

Measured

–

–

–

–

Indicated

8.97

17.66

158.49

5.10

Inferred

3.32

16.38

54.39

1.75

Total

12.29

17.32

212.88

6.84

*Vaal Reef – Middle mine*

Measured

1.99

20.26

40.35

1.30

Indicated

5.74  
22.19  
127.42  
4.10  
Inferred  
0.71  
19.50  
13.77  
0.44  
Total  
8.44  
21.51  
181.54  
5.84  
*Vaal Reef – Top mine*  
Measured  
0.52  
18.07  
9.46  
0.30  
Indicated  
1.24  
14.86  
18.45  
0.59  
Inferred  
0.28  
18.23  
5.19  
0.17  
Total  
2.05  
16.15  
33.09  
1.06  
*Vaal Reef – Great Noligwa*  
Measured  
1.29  
19.77  
25.59  
0.82  
Indicated  
0.29  
14.15  
4.15  
0.13  
Inferred  
0.02  
22.84  
0.35  
0.01

Total

1.60

18.77

30.09

0.97

*Vaal Reef – Great Noligwa Shaft Pillar*

Measured

0.08

15.99

1.21

0.04

Indicated

1.53

15.62

23.88

0.77

Inferred

–

–

–

–

Total

1.60

15.63

25.08

0.81

*Crystalkop Reef – Middle mine area*

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

0.94

9.48

8.90

0.29

Total

0.94

9.48

8.90

0.29

*Crystalkop Reef – Great Noligwa*

Measured

0.24

15.10

3.57

0.11

Indicated

0.26

15.31

4.04

0.13

Inferred

0.00

24.19

0.08

0.00

Total

0.50

15.27

7.70

0.25

Moab Khotsong

Total

38.87

16.00

621.77

19.99

SOUTH AFRICA

continued

Moab Khotsong

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**30**

*Exclusive Mineral Resource*

**Moab Khotsong**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

2.44

18.44

45.05

1.45

Indicated

13.70

15.75

215.84

6.94

Inferred

8.07

13.19

106.48

3.42

Total

24.22

15.17

367.37

11.81

The majority of the Exclusive Mineral Resource is located in the Lower mine area and consists mainly of designed rock engineering

bracket pillars and designed dip pillars.

*Mineral Resource below Infrastructure*

**Moab Khotsong**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

1.05

20.17

21.15

0.68

Indicated

18.58  
 14.97  
 278.19  
 8.94  
 Inferred  
 9.18  
 14.10  
 129.52  
 4.16  
 Total  
 28.81  
 14.89  
 428.87  
 13.79  
 20.20  
 -0.46  
 0.00  
 -0.15  
 -1.12  
 -0.28  
 1.79  
 0.00  
 19.99  
 Ounces  
 (millions)  
 20.5  
 20.0  
 19.5  
 19.0  
 18.5  
 18.0  
 17.5  
 -  
 -  
 -  
 -  
 -  
 -  
 2013  
 Deple-  
 tion  
 Gold  
 price  
 Cost  
 Explo-  
 ration  
 Metho-  
 dology  
 Other  
 Acquisition/  
 disposal

2014

**Moab Khotsonq**

Mineral Resource reconciliation: 2013 – 2014

6.12

-0.32

-0.61

0.00

0.00

0.07

0.22

0.00

5.48

Ounces

(millions)

6.2

6.1

6.0

5.9

5.8

5.7

5.6

5.5

5.4

5.3

5.2

5.1

5.0

–

–

–

–

–

–

–

–

–

–

–

–

2013

Other

2014

**Moab Khotsonq**

Ore Reserve reconciliation: 2013 – 2014

Deple-

tion

Model

change

Change in

economics

New



ounces  
from  
projects  
Scope  
change  
Acquisition/  
disposal  
SOUTH AFRICA  
**31**

SOUTH AFRICA

continued

Moab Khotsong

ORE RESERVE

*Ore Reserve*

**Moab Khotsong**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Vaal Reef Lower mine –*

*Zaaiplaats*

Proved

–

–

–

–

Probable

10.65

9.76

103.91

3.34

Total

10.65

9.76

103.91

3.34

*Vaal Reef – Middle mine*

Proved

1.00

12.03

12.03

0.39

Probable

2.78

13.04

36.30

1.17

Total

3.78

12.78

48.33

1.55

*Vaal Reef – Top mine*

Proved

0.35

8.55

2.98

0.10

Probable

0.33

7.15

2.37

0.08

Total

0.68

7.86

5.36

0.17

*Vaal Reef – Great Noligwa*

Proved

1.11

7.56

8.38

0.27

Probable

0.25

7.22

1.82

0.06

Total

1.36

7.50

10.21

0.33

*Crystalkop Reef – Great Noligwa*

Proved

0.22

5.55

1.21

0.04

Probable

0.25

5.98

1.49

0.05

Total

0.47

5.78

2.70

0.09

Moab Khotsong

Total

16.94

10.06

170.50

5.48

*Ore Reserve modifying factors*

**Moab Khotsong**

**Gold**

**price**

**Cut-off**

**grade**

**Cut-off**

**value**

**Stoping**

**width**

**Dilution**

**Diluted**

**MCF MetRF**

**31 December 2014**

**ZAR/Kg**

**g/t Au**

**cm.g/t Au**

**cm**

**%**

**g/t**

**%**

**%**

Vaal Reef Lower mine – Zaaiplaats

398,452

5.51

750

136.0

43.0

9.76

81.0

96.0

Vaal Reef – Middle mine

398,452

4.55

750

165.0

47.0

12.78

78.0

96.0

Vaal Reef – Top mine

398,452

4.55

750

165.0

52.0

7.86

78.0

96.0

Vaal Reef – Great Noligwa

398,452

4.75

750

158.0

62.0

7.50

60.0

95.0

Crystalkop Reef – Great Noligwa

398,452

5.28

750

142.0

58.0

5.78

61.0

95.0

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**32**

*Inferred Mineral Resource in business plan*

**Moab Khotsong**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Vaal Reef Lower mine –

Zaaipplaats

2.39

11.82

28.25

0.91

Vaal Reef – Middle mine

0.09

7.02

0.61

0.02

Vaal Reef – Top mine

0.01

13.73

0.19

0.01

Vaal Reef – Great Nologwa

0.00

12.98

0.00

0.00

Total

2.49

11.66

29.05

0.93

The Inferred Mineral Resource was used for optimisation purposes, but it was not included in the Ore Reserve.

*Ore Reserve below infrastructure*

**Moab Khotsong**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Proved

–

–  
–  
–  
Probable  
10.65  
9.76  
103.91  
3.34  
Total  
10.65  
9.76  
103.91  
3.34

COMPETENT PERSONS

**Moab Khotsong**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

Francis Rebaone Gaelejwe

SACNASP

400207/14

14 years

BSc Hons (Geology)

Ore Reserve

Andre Johnson

SACNASP

400011/06

24 years

Government Certificate of

Competency in Mine Survey

HND (Mineral Resource

Management)

MEng (Mining Engineering)

0

2

1

4

3

6

5

7

9

11

13





SOUTH AFRICA

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## INTRODUCTION

Along with TauTona and Savuka, Mponeng comprises the West Wits operations. Situated south of the combined TauTona and Savuka

mines, Mponeng is near the town of Carletonville and approximately 65km west of Johannesburg. Mponeng was previously named

Western Deep Levels South.

The original twin shaft sinking from surface commenced in 1981 and was commissioned along with the gold plant complex in 1986

when production began. Through the use of two hoisting shafts, a sub-shaft and two service shafts, Mponeng exploits the VCR

between depths of 2,800m and 3,400m below surface.

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

surface drilling programme and from underground drilling platforms.

## GEOLOGY

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

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

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

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

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

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

The relatively argillaceous protoquartzites of the Kimberley Formation are covered by the best-preserved VCR conglomerates.

The VCR is characterised by a series of channel terraces preserved at different relative elevations, and the highest gold values are

preserved in these channel deposits. The different channel terraces are divided by zones of thinner 'slope' reef, which is of lower value

and becomes more prevalent on the higher terraces and on the harder footwall units. The Elsburg Formation lies to the west and is

relatively more durable, while the eastern side of the mine is dominated by shales and siltstones of the Booyens Formation and due

to the erosional nature of the system, preserved both thick and thinner VCR conglomerates. No VCR is preserved on the Krugersdorp

Formation on the far eastern side of Mponeng.

The other gold-bearing reef with a reported Mineral Resource for Mponeng is the CLR. This reef has been mined at the adjacent

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

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

## SOUTH AFRICA

continued

Mponeng

N

Kilometres

0

1  
2  
3  
4

Carletonville

Fochville

**Mponeng**

**WUDLs**

**TauTona**

**Savuka**

Wolverdiend

Sibanye Gold Limited

Driefontein Gold Mine

Blyvooruitzicht

Harmony

Kusasaletu

**Gauteng Province**

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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SOUTH AFRICA

continued

Mponeng

is approximately 900m deeper than the VCR. In recent years extensive work has been done in refining the estimation model for CLR.

This has resulted in a decrease in value of the Mineral Resource and an improved confidence in the estimation.

Both the VCR and the CLR have been subjected to faulting and are intruded by a series of igneous dykes and sills of various ages that

cross-cut the reefs. There is an inherent risk in mining through these faults and intrusives and a key objective of AngloGold Ashanti

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

approaching or mining through these structures.

Mining is focused currently on the eastern and western edges of the lease area above 120 level. Value in these areas is starting to

decrease and the selectivity at which blocks of ground are identified and mined has intensified over the last few months.

The erratic

nature and poor preservation of the VCR on the Booyens Footwall zone in particular makes mining it challenging, and often affects

production advances. As new information becomes available through the extensive face sampling programme, modelling of the

higher-value pay shoots informs the planned gold production and is updated monthly.

The below 120 level mining area is currently negotiating the Fretted terrace area, a zone of poorly mineralised VCR, typified by a sandy

conglomerate that varies in thickness over relatively short distances and is often uneconomic. Results from extensive exploration

drilling from the 123 and 126 level development tunnels assists in delineating this area so as to enable optimise extraction. The below

120 level section has started mining and will be in full production in a year.

EXPLORATION

Underground exploration targets are located within the current mining lease and the adjacent WUDLs area, which is a natural extension

to the current mining fronts accessing the deeper portions of the VCR and CLR mineral deposits.

The majority of the Mineral Resource within the WUDLs lease area is classified as an Inferred Mineral Resource.

Upgrading of this

ground was not possible in 2014 due to the poor drilling progress of the underground exploration holes. Surface drilling was partially

successful with the continuation of UD51, as well as UD59, UD60 and the start of UD58A. Additional VCR intersections as deep as

4,000m are expected in 2015.

Drilling programmes on the western side of Mponeng from underground platforms were concluded during 2014.

Continuous

water and gas intersection resulted in the abandonment of efforts on the upper west side. An additional VCR intersection was

achieved on the lower west side. Drilling for VCR in 2015 will focus on the central southern areas covered by the phase 1 and

phase 3 project areas.

The CLR exploration programme started again late in 2014 from TauTona mine platforms. It is hoped that the drilling will intersect the

reef across the TauTona/Mponeng boundary further improving confidence in the Mineral Resource in the phase 2 area.

The planned extension of Mponeng through the phased deepening projects, will provide greater mining access to the CLR and the VCR Mineral Resource.

#### PROJECTS

The planned project phases will extract that portion of the Mineral Resource currently below infrastructure. The phase 1 VCR project

has successfully accessed ground to 126 level. On-reef development continued from 123-42 line and 123-45 line in 2014. Production

is expected to increase up to a mined area of 20,000m<sup>2</sup> per month and will extend Mponeng's life of mine to 2032.

The CLR phase 2 project will extract the CLR south of the TauTona and Savuka mines from 123 and 126 levels. The preparation for

the shaft infrastructure started in 2013 with the development of ramp design and the supporting on-level infrastructure.

Economic studies for future phases for the development of the VCR (phases 3 and 5) are being considered and are dependent on the

progress made from continued exploration work and design options.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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MINERAL RESOURCE

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

**Mponeng**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

5 x 5

–

–

–

X

–

Chip sampling

Stoping

Indicated

100 x 100

X

–

–

–

–

Underground

drilling

Inferred

1,000 x 1,000

X

–

–

–

–

Surface and

underground

drilling

Grade/Ore control

–

–

–

X

–

See Measured

Category

*Inclusive Mineral Resource*

**Mponeng**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*TauTona Ventersdorp Contact Reef Shaft Pillar*

Measured

0.49

17.40

8.47

0.27

Indicated

1.25

20.21

25.22

0.81

Inferred

–

–

–

–

Total

1.73

19.42

33.69

1.08

*Ventersdorp Contact Reef Above 109 Level*

Measured

4.06

13.79

55.93

1.80

Indicated

2.45

9.69

23.71

0.76

Inferred

–

–

–

–

Total

6.50

12.25

79.64

2.56

*Ventersdorp Contact Reef 109 to 120 Level*



Measured

3.84  
19.36  
74.42  
2.39

Indicated

4.88  
12.06  
58.88  
1.89

Inferred

0.23  
3.84  
0.87  
0.03

Total

8.95  
14.99  
134.16  
4.31

*Ventersdorp Contact Reef Below 120 Level*

Measured

0.27  
21.59  
5.84  
0.19

Indicated

9.97  
16.84  
167.94  
5.40

Inferred

0.09  
3.93  
0.35  
0.01

Total

10.33  
16.85  
174.14  
5.60

*Ventersdorp Contact Reef WUDLs*

Measured

—  
—  
—  
—

Indicated

3.96  
17.07  
67.59

2.17  
Inferred  
9.71  
17.43  
169.27  
5.44  
Total  
13.67  
17.32  
236.86  
7.62  
SOUTH AFRICA  
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SOUTH AFRICA

continued

Mponeng

*Inclusive Mineral Resource*

**Mponeng**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Ventersdorp Contact Reef Block 3*

Measured

0.03

10.31

0.34

0.01

Indicated

4.77

7.75

37.01

1.19

Inferred

–

–

–

–

Total

4.81

7.77

37.34

1.20

*Ventersdorp Contact Reef 127.5 Level*

Measured

–

–

–

–

Indicated

0.93

21.75

20.17

0.65

Inferred

0.10

21.11

2.21

0.07

Total

1.03

21.69

22.38

0.72

*TauTona Carbon Leader Reef Shaft Pillar*

Measured

0.50

42.00

21.21

0.68

Indicated

1.09

42.65

46.30

1.49

Inferred

—

—

—

—

Total

1.59

42.45

67.51

2.17

*TauTona Carbon Leader Reef Eastern Block*

Measured

—

—

—

—

Indicated

0.39

19.66

7.75

0.25

Inferred

—

—

—

—

Total

0.39

19.66

7.75

0.25

*Carbon Leader Reef Below 120 Level*

Measured

—

—

—  
—  
*Phase 2*  
Indicated  
12.45  
20.42  
254.35  
8.18  
Inferred  
0.09  
35.58  
3.23  
0.10  
Total  
12.54  
20.53  
257.58  
8.28  
*Carbon Leader Reef Below 120 Level*  
*Phase 4 and 6*  
Measured  
—  
—  
—  
—  
Indicated  
15.48  
19.43  
300.70  
9.67  
Inferred  
7.86  
17.67  
138.86  
4.46  
Total  
23.34  
18.83  
439.57  
14.13  
*Carbon Leader Reef Savuka*  
Measured  
0.01  
12.93  
0.09  
0.00  
Indicated  
1.48  
15.61  
23.05  
0.74

Inferred

—

—

—

—

Total

1.48

15.60

23.14

0.74

Mponeng

Total

86.38

17.52

1,513.76

48.67

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**38**

*Exclusive Mineral Resource*

**Mponeng**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

7.86

18.22

143.19

4.60

Indicated

31.96

16.74

534.96

17.20

Inferred

4.30

27.05

116.43

3.74

Total

44.12

18.01

794.59

25.55

Current mining practice at the West Wits operations is to leave behind 35% to 50% of the Mineral Resource as stability pillars. This

is done to minimise the effects of seismicity on underground workings. Bracket pillars are also placed around igneous intrusives and

other geological structures to improve stability and to minimise the risks associated with seismicity around these structures. All the

pillars and areas that mining cannot access are included in the Exclusive Mineral Resource.

Other areas of the Mineral Resource that do not form part of the life of mine fall under categories considered to be beyond infrastructure

and below the economic cut-off for the mine.

*Mineral Resource below infrastructure*

**Mponeng**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

3.96

17.07

67.59

2.17

Indicated

37.65

19.24

724.33

23.29

Inferred

7.95

17.87

142.10

4.57

Total

49.56

18.85

934.01

30.03

The portion of the Mineral Resource below infrastructure includes those in the WUDLs and the CLR Mineral Resource areas.

Infrastructure has only been developed up to 126 level on the VCR orebody and 120 level on the CLR orebody.

**SOUTH AFRICA**

52.55

-0.46

0.00

-2.19

-0.33

0.00

-0.90

0.00

48.67

Ounces

(millions)

53.0

52.5

52.0

51.5

51.0

50.5

50.0

49.5

49.0

48.5

48.0

-

-

-

-



-  
-  
-  
-  
-  
-  
2013  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
disposal  
2014

**Mponeng**

Mineral Resource reconciliation: 2013 – 2014

14.57  
-0.36  
-1.27  
0.00  
0.32  
-0.33  
0.00  
0.00  
12.93  
Ounces  
(millions)  
14.6  
14.4  
14.2  
14.0  
13.8  
13.6  
13.4  
13.2  
13.0  
12.8  
12.6

-  
-  
-  
-  
-  
-  
-

–  
–  
–

2013

Other

2014

**Mponeng**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
tion

Model  
change

Change in  
economics

New  
ounces

from  
projects

Scope  
change

Acquisition/  
disposal

**39**

SOUTH AFRICA

continued

Mponeng

ORE RESERVE

*Ore Reserve*

**Mponeng**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*TauTona Ventersdorp Contact Reef Shaft Pillar*

Proved

–

–

–

–

Probable

0.39

9.00

3.49

0.11

Total

0.39

9.00

3.49

0.11

*Ventersdorp Contact Reef Above 109 Level*

Proved

0.31

5.75

1.77

0.06

Probable

0.32

5.43

1.75

0.06

Total

0.63

5.59

3.52

0.11

*Ventersdorp Contact Reef 109 to 120 Level*

Proved

1.43

8.56

12.21

0.39

Probable

2.37

7.57

17.93

0.58

Total

3.80

7.94

30.14

0.97

*Ventersdorp Contact Reef Below 120 Level*

Proved

0.43

11.00

4.73

0.15

Probable

7.29

10.82

78.95

2.54

Total

7.72

10.83

83.68

2.69

*TauTona Carbon Leader Reef Shaft Pillar*

Proved

—

—

—

—

Probable

0.22

19.80

4.39

0.14

Total

0.22

19.80

4.39

0.14

*TauTona Carbon Leader Reef Eastern Block*

Proved

—

—

—

—

Probable

0.37

8.99

3.30

0.11

Total

0.37

8.99

3.30

0.11

*Carbon Leader Reef Below 120 Level*

Proved

—

—

—

—

*Phase 2*

Probable

10.09

10.89

109.85

3.53

Total

10.09

10.89

109.85

3.53

*Carbon Leader Reef Below 120 Level*

*Phase 4 and 6*

Proved

—

—

—

—

Probable

17.55

8.87

155.71

5.01

Total

17.55

8.87

155.71

5.01

*Carbon Leader Reef Savuka*

Proved

—

—

—

—

Probable

1.34

6.02

8.06

0.26

Total

1.34

6.02

8.06

0.26

Mponeng

Total

42.10

9.55

402.14

12.93

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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SOUTH AFRICA

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SOUTH AFRICA

continued

Mponeng

*Ore Reserve modifying factors*

**Mponeng**

**Gold**

**price**

**Cut-off**

**grade**

**Cut-off**

**value**

**Stoping**

**width**

**Dilution**

**Diluted**

**MCF MetRF**

**31 December 2014**

**ZAR/Kg**

**g/t Au**

**cm.g/t Au**

**cm**

**%**

**g/t**

**%**

**%**

TauTona Ventersdorp Contact Reef

Shaft Pillar

398,452

4.17

750

180.0

45.1

7.40

84.5

97.8

Ventersdorp Contact Reef above 109 Level

398,452

5.87

750

127.7

47.4

5.04

81.0

97.7

Ventersdorp Contact Reef 109 to 120 Level

398,452

5.76

750

130.2

47.3

7.13



81.0  
97.7  
Ventersdorp Contact Reef Below 120 Level

398,452

5.73

750

130.9

47.2

9.70

81.0

97.9

TauTona Carbon Leader Reef Shaft Pillar

398,452

7.89

750

95.0

52.6

21.95

81.0

98.1

TauTona Carbon Leader Reef Eastern Block

398,452

7.14

750

105.0

49.8

8.92

78.0

97.9

Carbon Leader Reef Below 120 Level

Phase 2

398,452

7.14

750

105.0

45.1

8.96

81.0

97.9

Carbon Leader Reef Below 120 Level

Phase 4 and 6

398,452

7.14

750

105.0

49.3

8.63

81.0

97.7

Carbon Leader Savuka

398,452

6.25  
 750  
 120.0  
 50.4  
 6.12  
 81.0  
 97.7  
*Inferred Mineral Resource in business plan*

**Mponeng**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**  
**million**  
**g/t**  
**Tonnes**  
**Moz**  
**Comments**

Carbon Leader Reef  
 6.42  
 8.62  
 55.33  
 1.78  
 Below 120 Level Phase 4 and 6  
 Total  
 6.42  
 8.62  
 55.33  
 1.78

The Inferred Mineral Resource is used for optimisation purposes and forms part of the business plan but is not included in the Ore Reserve. These portions of the deposit are located in the WUDLs area below the current infrastructure and makes up that part of the CLR Mineral Resource that is to be included in the CLR phase 4 and 6 project.

*Ore Reserve below infrastructure*

**Mponeng**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**  
**Category**  
**million**  
**g/t**  
**Tonnes**  
**Moz**  
 Proved

—  
 —  
 —  
 —  
 Probable

27.63  
9.61  
265.57  
8.54  
Total  
27.63  
9.61  
265.57  
8.54

These portions of the deposit include the CLR project areas (phases 2, 4 and 6).

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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COMPETENT PERSONS

**Mponeng**

**Category**

**Competent person**

**Professional  
organisation**

**Membership  
number**

**Relevant  
experience**

**Qualification**

Mineral Resource

Gareth Flitton

SACNASP

400019/15

11 years

BSc Hons (Geology)

GDE (Mineral Economics)

Ore Reserve

Willie Olivier

PLATO

MS 0136

24 years

Government Certificate of

Competency in Mine Survey

–

–

–

–

–

–

–

–

–

–

–

–

0

2

4

6

8

10

12

14

16

18

20

22

24

Tonnes

above

cut-off  
(millions)

Average  
grade

above  
cut-off

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

34

32

30

28

26

24

22

20

18

16

14

90

80

70

60

50

40

30

20

10

0

Tonnes above cut-off

Ave grade above cut-off

**Mponeng**

Grade tonnage curve – Underground (metric)

SOUTH AFRICA

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## INTRODUCTION

TauTona (Savuka was included in the TauTona operations in 2013), lies on the West Wits Line, just south of Carletonville in North West Province, about 70km south-west of Johannesburg. Mining at this operation takes place at depths ranging from 2,000m to 3,640m.

The mine has a three-shaft system.

## GEOLOGY

The CLR is the principal economic horizon at TauTona and the VCR is the secondary economic horizon. The CLR is located near the base of the Johannesburg Subgroup, which forms part of the Central Rand Group. The Central Rand Group sediments are unconformably overlain by the Klipriviersberg lavas and the VCR is developed at the interface between the Central Rand Group sediment and the overlying lavas. The CLR and the VCR at TauTona are vertically separated by about 900m of shales and quartzites.

The CLR is a thin, on average 20cm thick, tabular, auriferous quartz pebble conglomerate and consists of three sedimentary facies or units. Economically, the most important is Unit 1, which is present as a sheet-like deposit over the whole mine, although reef development and grades tend to decrease 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.

All production on the VCR at TauTona ceased in 2013, and no future mining has been planned on this reef horizon.

The VCR is

comprised of a quartz pebble conglomerate (up to 2m thick) capping the top-most angular unconformity of the Witwatersrand

Supergroup. The topography of the VCR depositional area is uneven and the reef is draped over a series of slopes and forms terraces at different elevations.

The CLR and VCR are cross-cut by faults and intrusive dykes that displace the reef horizons. The faulting, in conjunction with the many intrusives that also intersect the deposit, is responsible for most of the risk inherent in deep-level gold mining, since seismicity is associated with these geological features.

In recent years, extensive work has been done in refining the estimation model for CLR which utilised several methods including

geochemistry, spectral scanning and various geostatistical techniques. This has resulted in a slight decrease in the value of the Mineral

Resource, however it has improved the confidence in the estimation.

## EXPLORATION

Savuka is a mature mine approaching the end of its productive life. No exploration is currently taking place at this operation and any un-mined ground will be re-allocated to surrounding mines. No further exploration drilling has been planned for 2015 from Savuka.

Two LIBs have been planned at TauTona from 112 level to obtain additional structural and estimation domain information in 2015.

Drilling in the south-eastern block will upgrade the confidence in the area south of the Pretorius Fault Zone (PFZ).

Drilling will also

confirm the estimation domain boundary line known as the Driefontein facies.

## PROJECTS

A drilling programme was initiated late in 2012 to explore the ground south of the PFZ. Its aim was to create a greater understanding of the

lateral movement of the PFZ as well as the different intrusions south of the PFZ, their age relationships and their different characteristics.

This drilling programme will continue in 2015 when the final interpretation and modelling of the structures south of the PFZ will be

concluded. The LIB drilling is scheduled to drill through some of the structures further south of the PFZ, which will also assist with

interpretation and modelling of these structures.

### New Technology Reef Boring Project

The project aims to increase productivity, improve gold recovery and enhance safety. Testing continues on 97 level to prove up

the prototype of the reef-boring machine. Initial results on mining all the gold, only the gold, all the time are encouraging, with three

reef-boring machines now deployed. This test work will continue. Future reef-boring sites have been identified and included in the

business plan.

## SOUTH AFRICA

continued

TauTona

## MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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SOUTH AFRICA

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**New Technology Geological Drilling Project**

In order to mine the different reef packages optimally, the accurate location of reef terraces, structural information and sufficient time

to analyse the geological information are essential to the success of mechanised mining. Two methods of drilling, reverse circulation

(RC) and rotary percussion, have been tested and continue to be tested. It is envisaged that these methods may be able to replace

the current DD methods being currently utilised to obtain geological and sampling information. Alterations and design modifications to

the drilling rigs are constantly being made to improve drilling efficiencies.

**MINERAL RESOURCE**

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

**TauTona**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

5 x 5

–

–

–

X

–

Chip sampling

Stoping

Indicated

100 x 100

X

–

–

–

–

Underground

drilling

Inferred

1,000 x 1,000

X

–

–

–

–

Surface drilling

Grade/Ore control

–

–

–  
X  
–  
See Measured  
Category  
*Inclusive Mineral Resource*  
**TauTona**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**  
**Category**  
**million**  
**g/t**  
**Tonnes**  
**Moz**  
*East of the bank between 100 and 112 Levels*  
Measured  
0.39  
25.03  
9.77  
0.31  
Indicated  
1.31  
18.91  
24.87  
0.80  
Inferred  
–  
–  
–  
–  
Total  
1.71  
20.31  
34.63  
1.11  
*Carbon Leader Reef – 1C11*  
Measured  
0.13  
24.16  
3.15  
0.10  
Indicated  
0.04  
26.22  
1.12  
0.04  
Inferred  
–  
–

—  
—  
Total  
0.17  
24.67  
4.27  
0.14  
*Carbon Leader Reef Base*  
Measured  
0.47  
27.02  
12.83  
0.41  
Indicated  
1.64  
27.28  
44.73  
1.44  
Inferred  
—  
—  
—  
—  
Total  
2.11  
27.23  
57.57  
1.85  
*Savuka Carbon Leader Reef*  
Measured  
0.37  
16.02  
5.94  
0.19  
Indicated  
0.86  
17.77  
15.33  
0.49  
Inferred  
—  
—  
—  
—  
Total  
1.23  
17.25  
21.27  
0.68  
TauTona  
Total

5.23  
 22.53  
 117.74  
 3.79  
*Exclusive Mineral Resource*

**TauTona**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**

**Category**  
**million**

**g/t**  
**Tonnes**  
**Moz**

Measured

1.09

23.75

25.89

0.83

Indicated

1.64

23.33

38.36

1.23

Inferred

–

–

–

–

Total

2.73

23.49

64.25

2.07

At TauTona, the Exclusive Mineral Resource is defined by the mining strategy. The additional Mineral Resource is expected to be taken up by safety, boundary and remnant pillars ahead of current mining.

SOUTH AFRICA

continued

TauTona

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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*Mineral Resource below infrastructure*

No Mineral Resource reported below infrastructure.

**ORE RESERVE**

The closure of Blyvooruitzicht in 2013, and subsequent suspension of groundwater pumping, presented a serious risk to the economic viability of TauTona's Ore Reserve. In order to mitigate this risk, the Covalent Water Company was established so as to assume pumping at source at the Blyvooruitzicht No. 4 and No. 6 shafts. Although the Covalent Water Company will be responsible for handling the bulk of the underground water from Blyvooruitzicht mine, around 8Ml/day of underground water will build up within the workings of Blyvooruitzicht mine's No. 5 shaft, after which it will flow through the workings to Savuka. Savuka currently does not have the facilities to pump this water to surface and as a result an underground pipeline from Savuka to TauTona was established in order to pump the water from Savuka to TauTona, from where it can be pumped to surface. Although all the necessary mitigating actions have been taken, the water level at Blyvooruitzicht No. 5 shaft has not yet reached the point where the water will flow to Savuka.

*Ore Reserve*

**TauTona**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*East of the bank between 100 and 112 Levels*

Proved

0.11

9.25

0.98

0.03

Probable

1.54

6.63

10.23

0.33

Total

1.65

6.80

11.21

0.36

*Carbon Leader Reef – 1C11*

Proved

0.01

10.13

0.14

0.00  
 Probable  
 -  
 -  
 -  
 -  
 Total  
 0.01  
 10.13  
 0.14  
 0.00  
*Carbon Leader Reef Base*  
 Proved  
 0.21  
 10.01  
 2.12  
 0.07  
 Probable  
 1.79  
 9.77  
 17.54  
 0.56  
 Total  
 2.01  
 9.80  
 19.66  
 0.63  
*Savuka Carbon Leader Reef*  
 Proved  
 0.13  
 6.88  
 0.93  
 0.03  
 Probable  
 0.82  
 6.68  
 5.49  
 0.18  
 Total  
 0.96  
 6.71  
 6.42  
 0.21  
 TauTona  
 Total  
 4.63  
 8.09  
 37.42  
 1.20  
 4.46  
 -0.24







SOUTH AFRICA

continued

TauTona

*Ore Reserve modifying factors*

**TauTona**

**Gold**

**price**

**Cut-off**

**grade**

**Cut-off**

**value**

**Stoping**

**width**

**Dilution**

**Diluted**

**MCF MetRF**

**31 December 2014**

**ZAR/Kg**

**g/t Au**

**cm.g/t Au**

**cm**

**%**

**g/t**

**%**

**%**

East of the bank between 100 and

112 Levels

398,452

8.57

900

105.0

64.4

6.80

74.1

96.9

Carbon Leader Reef – 1C11

398,452

7.50

900

120.0

57.3

10.13

74.1

96.9

Carbon Leader Reef Base

398,452

8.57

900

105.0

61.7

9.80

74.1  
96.9  
Savuka Carbon Leader Reef  
398,452  
7.83  
900  
115.0  
57.5  
6.71  
71.0  
96.8

*Inferred Mineral Resource in business plan*

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

*Ore Reserve below infrastructure*

There is no Ore Reserve reported below infrastructure.

**COMPETENT PERSONS**

**TauTona**

**Category**

**Competent person**

**Professional  
organisation**

**Membership  
number**

**Relevant  
experience**

**Qualification**

Mineral Resource

Michelle Pienaar

SACNASP

400027/15

13 years

BSc Hons (Geology)

Ore Reserve

Joey Modise

PLATO

MS 0113

27 years

Government Certificate of  
Competency in Mine Survey

HND (Mineral Resource  
Management)

—  
—  
—  
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—  
—  
—

–  
–  
0  
2  
4  
6  
8  
12  
10  
14  
16  
18  
20  
22  
24  
Tonnes  
above  
cut-off  
(millions)  
Average  
grade  
above  
cut-off  
(g/t)  
Cut-off grade (g/t)  
34  
32  
30  
28  
26  
24  
22  
20  
5.5  
5.0  
4.5  
4.0  
3.5  
3.0  
2.5  
2.0  
1.5  
1.0  
Tonnes above cut-off  
Ave grade above cut-off

**TauTona**

Grade tonnage curve – Underground (metric)  
MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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## SOUTH AFRICA

### OVERVIEW

Surface operations in South Africa produce gold by processing lower-grade surface material such as waste rock dumps and by the

re-treatment of tailings storage facilities (TSF). Surface Operations comprise Vaal River Surface, West Wits Surface and Mine Waste

Solutions (MWS). Within the Vaal River area the Kopanang, West and Mispah Gold Plants are dedicated Surface Operations plants,

while the Nologwa Gold Plant and South Uranium Plant circuit process reef material for the extraction of gold and uranium. Within the

West Wits area, the Savuka Plant is processing mainly surface sources material in addition to the Savuka reef material while Mponeng

Plant is dedicated to processing reef material.

AngloGold Ashanti acquired the MWS tailings retreatment operation in the Vaal River region in July 2012. MWS comprises three

separate gold plants namely Stream 1, Stream 2 and Stream 3. Hydraulically-reclaimed material from several TSFs is delivered to the

three plants for gold extraction.

The MWS Uranium Plant and Flotation Plants were commissioned in 2014.

### INTRODUCTION

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. These operations extract gold from the waste rock dump material emanating from the mining and processing

of the VR and VCR mined by the Vaal River mines. Most of the surface gold produced is from the processing of waste rock dump

material, supplemented by a small portion of gold from the rehabilitation of surface areas. The rehabilitation is in line with AngloGold

Ashanti's commitment to care for the environment.

The MWS operation is located approximately 8km from the town of Klerksdorp near Stilfontein within 20km of the Vaal River surface

operations. The MWS feed sources (redundant tailings storage facility dams) are scattered over an area that stretches approximately

13.5km north-south and 14km east-west.

The West Wits surface operations are located on the West Wits Line, near the town of Carletonville, across the border between the

North West and Gauteng Provinces. These operations process waste rock dump material sourced from the mining and processing of

the CLR and the VCR that are mined by the West Wits mines in the Carletonville/Fochville area.

### GEOLOGY

The material contained in the TSF and waste rock dumps originates from the historic ore-bearing reefs mined by the West Wits, Vaal

River, Buffelsfontein, Hartebeestfontein and Stilfontein gold mines. The material contained in the TSFs is generally fine grained.

The data used in the Mineral Resource estimation for the TSFs includes drill-hole sampling and plant residue information. Drill-hole

sampling involves vertical drilling of the TSFs by means of a portable hydraulic auger drilling machine according to a predetermined

sampling grid. Each hole is drilled from the outer surface of the deposit to intersect the underlying sub-soil or bedrock using a 50mm

diameter nominal bore rotating core barrel extracting 1.5m sampling increments. The drill-hole sampling information is then utilised to generate 3D grade models (block model) using the Ordinary Kriging estimation method.

#### WASTE ROCK DUMPS

The waste rock dumps consist of waste rock mined from underground workings; hoisted, transported and deposited via conveyor

belts. The gold contained within these dumps was sourced from three areas namely:

- minor reef that emanated during the initial mining stages to access the primary reef;
- gold-bearing reef that was contained within small fault blocks that were exposed by off-reef development; and
- cross-tramming of gold-bearing reef material to the waste tips.

#### SOUTH AFRICA

continued

Surface Operations

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#### TAILINGS STORAGE FACILITIES

The tailings dams consist of tailings material which originated from the processing of the underground ore from the Orkney gold mines (VR Surface) and Buffels, Hartebeestfontein and Stilfontein gold mines (MWS). These gold mines are deep-level gold mines, which predominantly extract the tabular, conglomeritic VR. The VR has been predominantly mined for gold in the past although the reef also contains uranium oxide.

The material contained in the tailings dams is generally fine in nature. The footprints of the MWS tailings dams and Vaal River Surface

Operations tailings dams cover an area of approximately 1,100ha.

The West Wits Old North Tailings are to be re-processed in the current business plan. The Savuka TSF remains an opportunity and will be re-evaluated in future.

#### RECLAMATION METHODOLOGY

Waste rock dumps

Bulldozers are used to create furrows through the waste rock material in order to blend the rock and create safe loading faces. The

material is then loaded onto rail hoppers by means of a front-end loader and transported to the relevant gold plants for processing.

Tailings storage facilities

The tailings are reclaimed using a number of hydraulic (high-pressure water) monitoring guns to deliver water at pressure, typically

27-30 bar, to the face. The tailings material is reclaimed by blasting the TSF face with the high-pressure water, resulting in the slurry

gravitating towards pumping stations. These monitoring guns can be positioned to selectively reclaim required areas from the TSFs.

Bench heights are constrained by the force delivered from the monitoring gun nozzle and safety constraints. With sufficient pressure,

face lengths of up to 25m can be reclaimed.

The reclamation strategy is aimed at mining the higher-grade dams first. The pump stations are located at the lowest point of the dams to

ensure that the slurry from the dams will gravitate towards the pump station from where the slurry will be pumped to the processing plants.

#### ENVIRONMENTAL REHABILITATION

Rehabilitation work is ongoing and gold is produced from cleaning-up operations at Vaal River, this material is processed at the

Kopang Gold Plant. During 2014, the floor/footprint clean-up of the Great Nologwa waste rock dump was concluded, in line with

the environmental rehabilitation strategy.

#### PROJECTS AND GROWTH

Construction of a new pump station for connecting the Vaal River East TSF to the MWS circuit is in progress.

Commissioning of the

pump station will begin mid-2015. A satellite pump station for the South East Extension TSF will also be commissioned early in 2015.

Material from this TSF will be processed through MWS's Stream 3 at a rate of 11,000 tonnes per day. The South East Extension TSF

has a higher grade than the current Harties 1 material.

Initiatives to sustain margins include projects to improve logistics and reduce costs. These projects will receive focus in early 2015.

#### SOUTH AFRICA

continued

Surface Operations

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**50**

SOUTH AFRICA

MINERAL RESOURCE

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

**Vaal River Surface**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

50 x 50

-

-

-

-

X

Auger drilling

Indicated

100 x 100,

150 x 150

-

-

-

-

X

Auger drilling

Inferred

-

-

-

-

-

Grade/Ore control 50 x 50

-

-

-

-

X

Auger drilling

*Inclusive Mineral Resource*

**Surface Operations**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**



**million**

**g/t**

**Tonnes**

**Moz**

**Vaal River Surface**

*Tailings storage facilities*

Measured

–

–

–

–

Indicated

456.63

0.27

122.46

3.94

Inferred

–

–

–

–

Total

456.63

0.27

122.46

3.94

*Waste rock dump*

Measured

–

–

–

–

Indicated

32.26

0.47

15.27

0.49

Inferred

2.61

0.69

1.80

0.06

Total

34.87

0.49

17.06

0.55

**West Wits Surface**

*Tailings storage facilities*

Measured

–

—  
—  
—  
Indicated  
181.68  
0.24  
44.07  
1.42  
Inferred  
—  
—  
—  
—  
Total  
181.68  
0.24  
44.07  
1.42  
*Waste rock dump*  
Measured  
—  
—  
—  
—  
Indicated  
9.70  
0.52  
5.09  
0.16  
Inferred  
—  
—  
—  
—  
Total  
9.70  
0.52  
5.09  
0.16  
**Mine Waste Solutions**  
*Tailings storage facilities*  
Measured  
129.79  
0.22  
28.10  
0.90  
Indicated  
173.30  
0.24  
41.46  
1.33

Inferred

15.17

0.30

4.52

0.15

Total

318.26

0.23

74.08

2.38

Surface Operations

Total

1,001.14

0.26

262.76

8.45

**51**

*Exclusive Mineral Resource*

**Surface Operations**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

**Vaal River Surface**

Measured

–

–

–

–

Indicated

25.36

0.14

3.56

0.11

Inferred

–

–

–

–

Total

25.36

0.14

3.56

0.11

**West Wits Surface**

Measured

–

–

–

–

Indicated

176.92

0.24

42.88

1.38

Inferred

–

–

–

–

Total

176.92

0.24

42.88

1.38

**Mine Waste Solutions**

Measured

3.45

0.35

1.21

0.04

Indicated

0.29

0.27

0.08

0.00

Inferred

–

–

–

–

Total

3.75

0.34

1.29

0.04

Surface Operations

Total

206.03

0.23

47.73

1.53

The Exclusive Mineral Resource includes a portion of the Mispah II TSF which is below cut-off grade. Mispah II will be the deposition

facility for the Nologwa Plant as soon as MWS starts reclaiming Mispah I.

**SOUTH AFRICA**

continued

Surface Operations

4.63

-0.19

0.00

0.00

-0.05

0.09

0.01

0.00

4.49

Ounces

(millions)

4.65

4.60

4.55

4.50

4.45

4.40  
4.35  
4.30

—  
—  
—  
—  
—  
—  
—  
—

2013  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
disposal  
2014

**Vaal River Surface**

Mineral Resource reconciliation: 2013 – 2014

1.59  
-0.03  
0.00  
0.00  
0.00  
0.02  
-0.01  
0.00  
1.58  
Ounces  
(millions)  
1.595  
1.590  
1.585  
1.580  
1.575  
1.570  
1.565  
1.560

—  
—  
—  
—  
—  
—

–  
2013  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
disposal

2014

**West Wits Surface**

Mineral Resource reconciliation: 2013 – 2014

4.46  
-0.17  
0.01  
-0.11  
0.00  
0.00  
0.01  
0.00  
4.20  
Ounces  
(millions)  
4.50  
4.45  
4.40  
4.35  
4.30  
4.25  
4.20  
4.15  
4.10

–  
–  
–  
–  
–  
–  
–  
–  
–

2013  
Other  
2014

**Vaal River Surface**

Ore Reserve reconciliation: 2013 – 2014

Deple-

tion  
Model  
change  
Change in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Acquisition/  
disposal

0.18  
-0.03  
-0.02  
0.00  
0.06  
0.00  
-0.01  
0.00  
0.19

Ounces  
(millions)

0.21  
0.20  
0.19  
0.18  
0.17  
0.16  
0.15  
0.14  
0.13  
0.12

—  
—  
—  
—  
—  
—  
—  
—  
—

2013  
Other  
2014

**West Wits Surface**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
tion  
Model



change  
Change in  
economics

New  
ounces  
from

projects  
Scope  
change

Acquisition/  
disposal

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**52**

SOUTH AFRICA

ORE RESERVE

*Ore Reserve*

**Surface Operations**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

**Vaal River Surface**

*Tailings storage facilities*

Proved

–

–

–

–

Probable

431.27

0.28

118.85

3.82

Total

431.27

0.28

118.85

3.82

*Waste rock dump*

Proved

–

–

–

–

Probable

32.26

0.37

11.91

0.38

Total

32.26

0.37

11.91

0.38

**West Wits Surface**

*Tailings storage facilities*

Proved

–

–

—  
 —  
 Probable  
 6.84  
 0.29  
 1.96  
 0.06  
 Total  
 6.84  
 0.29  
 1.96  
 0.06  
*Waste rock dump*

Proved

—  
 —  
 —  
 —  
 Probable

7.62  
 0.53  
 4.04  
 0.13  
 Total  
 7.62  
 0.53  
 4.04  
 0.13

**Mine Waste Solutions**

*Tailings storage facilities*

Proved

126.33  
 0.21  
 26.89  
 0.86

Probable

173.00  
 0.24  
 41.38  
 1.33

Total

299.34  
 0.23  
 68.27  
 2.19

Surface Operations

Total

777.33  
 0.26  
 205.02  
 6.59

2.41  
-0.14  
0.00  
0.00  
0.01  
0.12  
-0.01  
0.00  
2.38  
Ounces  
(millions)  
2.42  
2.40  
2.38  
2.36  
2.34  
2.32  
2.30  
2.28  
2.26  
2.24  
-  
-  
-  
-  
-  
-  
-  
-  
-  
2013  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
disposal  
2014  
**Mine Waste Solutions**  
Mineral Resource reconciliation: 2013 – 2014  
2.25  
-0.12  
0.07  
0.00  
0.00

0.00  
-0.00  
0.00  
2.19  
Ounces  
(millions)  
2.26  
2.24  
2.22  
2.20  
2.18  
2.16  
2.14  
2.12  
2.10

—  
—  
—  
—  
—  
—  
—  
—

2013  
Other  
2014

**Mine Waste Solutions**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
tion  
Model  
change  
Change in  
Economics  
New  
ounces  
from  
projects  
Scope  
change  
Acquisition/  
disposal

**53**

*Ore Reserve modifying factors*

**Surface operations**

**Gold**

**price**

**Cut-off**

**grade**

**% RMF**

**% RMF**

**MCF**

**MetRF**

**as at 31 December 2014**

**ZAR/Kg**

**g/t Au**

**(based on**

**tonnes)**

**(based**

**on g/t)**

**%**

**%**

*Vaal River Surface*

Tailings storage facilities

398,452

0.19

94.0

103.00

99.0

47.0

Waste rock dump

398,452

0.41

93.0

75.00

100.0

88.0

*West Wits Surface*

Tailings storage facilities

398,452

0.27

4.0

118.00

100.0

30.0

Waste rock dump

398,452

0.40

79.0

101.00

100.0

88.0

*Mine Waste Solutions*

Tailings storage facilities

398,452  
 0.19  
 94.0  
 98.00  
 99.0  
 47.0

*Inferred Mineral Resource in business plan*

**Surface operations**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

*Vaal River Surface*

Waste rock dump

2.61

0.43

1.12

0.04

No. 3 Waste rock dump

*Mine Waste Solutions*

Tailings storage facilities

15.17

0.30

4.52

0.15

Portion of Mine Waste Solutions 5

Total

17.78

0.32

5.64

0.18

The No.3 waste rock dump is part of Vaal River Inferred Mineral Resource in the plan and 50% of this dump has already been

processed through the Vaal River plants and will be depleted by the end of 2016.

Part of MWS 5 TSF is an Inferred Mineral Resource and has been included in planning for 2015. Drilling will be conducted on the

MWS 5 TSF early in 2015 so as to improve confidence in the Mineral Resource.

**COMPETENT PERSONS**

**Surface operations**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

Raymond Orton

PLATO

MS 0132

28 years

GDE (Mineral Economics)

Government Certificate of  
Competency in Mine Survey

HND (Mineral Resource  
Management)

ND (Survey)

Ore Reserve

Mariaan Gagiano

SAIMM

705 920

30 years

Government Certificate of  
Competency in Assaying

SOUTH AFRICA

continued

Surface Operations

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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SOUTH AFRICA

**55**

OVERVIEW

Uranium is produced at the Vaal River operation during the processing of reef material from Moab Khotsong and Kopanang in the Noligwa Gold Plant/South Uranium Plant circuit. The reef is milled at the Noligwa Gold Plant and processed at the South Uranium Plant for uranium oxide extraction prior to gold extraction at Noligwa Gold Plant. Ammonium diuranate (ADU or 'yellow cake') is the final product of both the South Uranium plant and MWS Uranium Plant which is transported to the Nuclear Fuels Corporation of South Africa (Pty) Ltd (Nufcor) located in Gauteng where the material is calcined and packed for shipment to the converters.

PROJECTS AND GROWTH

AngloGold Ashanti acquired the MWS tailings retreatment operation in the Vaal River region in July 2012. The MWS Float and Uranium

Plants were commissioned during the fourth quarter of 2014.

*Inclusive Mineral Resource by-product – Uranium (U*

3

0

8

)

**Tonnes**

**Grade**

**Contained uranium oxide**

**as at 31 December 2014**

**Category**

**million**

**kg/t**

**Tonnes Pounds million**

*Kopanang*

Measured

–

–

–

–

Indicated

8.72

0.69

5,983

13.19

Inferred

1.19

0.63

745

1.64

Total

9.90

0.68

6,728

14.83

*Moab Khotsong*

Measured

–

—  
—  
—  
Indicated  
28.58  
0.78  
22,343  
49.26  
Inferred  
10.28  
0.70  
7,203  
15.88  
Total  
38.87  
0.76  
29,546  
65.14  
*Mponeng*  
Measured  
—  
—  
—  
—  
Indicated  
40.44  
0.29  
11,650  
25.68  
Inferred  
—  
—  
—  
—  
Total  
40.44  
0.29  
11,650  
25.68  
*TauTona*  
Measured  
—  
—  
—  
—  
Indicated  
5.23  
0.28  
1,452  
3.20  
Inferred

-  
 -  
 -  
 -  
 Total  
 5.23  
 0.28  
 1,452  
 3.20  
*Vaal River Surface*  
 Measured  
 -  
 -  
 -  
 -  
 Indicated  
 456.63  
 0.09  
 41,769  
 92.08  
 Inferred  
 -  
 -  
 -  
 -  
 Total  
 456.63  
 0.09  
 41,769  
 92.08  
*Mine Waste Solutions*  
 Measured  
 129.79  
 0.07  
 8,892  
 19.60  
 Indicated  
 173.57  
 0.08  
 13,592  
 29.97  
 Inferred  
 15.17  
 0.10  
 1,441  
 3.18  
 Total  
 318.52  
 0.08  
 23,926  
 52.75

*West Wits Surface*

Measured

—  
—  
—  
—

Indicated

181.68

0.07

13,021

28.71

Inferred

—  
—  
—  
—

Total

181.68

0.07

13,021

28.71

Uranium

Total

1,051.27

0.12

128,091

282.39

SOUTH AFRICA

continued

Uranium

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**56**

*Ore Reserve by-product – Uranium (U*

3

0

8

)

**Tonnes**

**Grade**

**Contained uranium oxide**

**as at 31 December 2014**

**Category**

**million**

**kg/t**

**Tonnes Pounds million**

*Kopanang*

Proved

1.81

0.46

829

1.83

Probable

4.64

0.45

2,079

4.58

Total

6.45

0.45

2,909

6.41

*Moab Khotsong*

Proved

2.68

0.35

949

2.09

Probable

14.27

0.61

8,664

19.10

Total

16.94

0.57

9,613

21.19

*Vaal River Surface*

Proved

–

–

–

–

Probable

417.47

0.09

38,919

85.80

Total

417.47

0.09

38,919

85.80

*Mine Waste Solutions*

Proved

—

—

—

—

Probable

66.02

0.06

4,160

9.17

Total

66.02

0.06

4,160

9.17

Uranium

Total

506.88

0.11

55,600

122.58

SOUTH AFRICA

**57**

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Regional overview

61

Democratic Republic of  
the Congo

63

Kibali

68

Mongbwalu

70

Ghana

72

Iduapriem

77

Obuasi

82

Guinea

84

Siguiri

92

Mali

94

Morila

97

Sadiola

103

Tanzania

104

Geita

CAPTION: The Siguiri open pit operation in the  
Continental Africa region

IS HOME TO

KIBALI, A NEW,

LOW-COST,

LONG LIFE

OPERATION

CONTINENTAL AFRICA

The Continental Africa  
region comprises seven  
mining operations and a  
development project in  
five countries.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**58**

Contribution to regional production  
by country – 2014

.

Tanzania

30



• Ghana

26

•

Guinea

18

•

DRC

15

•

Mali

9

•

Namibia

2

%

Contribution to group production – 2014

•

Continental Africa

36

• Rest of AngloGold Ashanti

64

%

CONTINENTAL AFRICA

Regional overview

As at 31 December 2014, the total attributable Mineral Resource (inclusive of the Ore Reserve) for the Continental Africa region was 64.29Moz (2013: 69.06Moz) and the attributable Ore Reserve 18.93Moz (2013: 24.41Moz).

This is equivalent to around 28% and 33% of the group's Mineral Resource and Ore Reserve respectively. Combined production from these operations totalled 1.6Moz of gold in 2014, equivalent to 36% of group production.

AngloGold Ashanti has seven mining operations within Continental Africa Region: Kibali in the Democratic Republic of the Congo

(DRC); Iduapriem and Obuasi in Ghana; Siguiiri in Guinea; Morila and Sadiola in Mali and Geita in Tanzania.

During 2014 Navachab was sold and Yatela placed in closure mode. The region also has a development project, Mongbwalu in the

DRC which is currently on hold pending a decision on its future.

*Inclusive Mineral Resource*

**Continental Africa**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

79.94

3.07

245.06

7.88

Indicated

419.68

2.59

1,086.73

34.94

Inferred

277.85

2.40

667.86

21.47

Total

777.47

2.57

1,999.66

64.29

*Exclusive Mineral Resource*

**Continental Africa**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**  
**million**  
**g/t**

**Tonnes**  
**Moz**

Measured

36.80

4.89

179.78

5.78

Indicated

215.36

2.58

556.29

17.89

Inferred

276.82

2.39

661.34

21.26

Total

528.97

2.64

1,397.41

44.93

*Ore Reserve*

**Continental Africa**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Continental Africa region*

Proved

44.95

1.52

68.12

2.19

Probable

203.84

2.55

520.67

16.74

Total

248.78

2.37

588.79

18.93

CONTINENTAL AFRICA

Ytelaa

Navachab

Sadiola

Mongbwalu

Siguiri

Iduapriem

Geita

Kibali

Obuasi

Morila

Moz

December 2013

December 2014

0

5

10

15

20

25

30

Continental Africa Mineral Resource – attributable

Per operation/project

Navachab

Sadiola

Siguiri

Iduapriem

Geita

Kibali

Obuasi

Morila

Moz

December 2013

December 2014

0

1

2

3

4

5

6

7

8

9

Continental Africa Ore Reserve – attributable

Per operation/project

**59**

CONTINENTAL AFRICA

continued

Regional overview

Operations

Project

**CONTINENTAL AFRICA**

Kibali (45%)

Mongbwalu (86.2%)

DRC

Geita

Tanzania

Siguiri (85%)

Guinea

Morila (40%)

Sadiola (41%)

Mali

Iduapriem

Obuasi

Ghana

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**60**

CONTINENTAL AFRICA

continued

Democratic Republic of the Congo

COUNTRY OVERVIEW

AngloGold Ashanti owns 45% of Kibali and 86.2% of the Mongbwalu development project in the DRC.

Implementation of the

Mongbwalu project was suspended in 2013 while production began during the third quarter of 2013 at Kibali. Kibali produced 40Koz

in 2013 and 237Koz in 2014.

Kibali

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

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

to 90%, while Société Minière de Kilo-Moto (SOKIMO) retained a 10% holding.

The operation is a joint development between three separate groups:

•

AngloGold Ashanti;

•

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

Exchange and Nasdaq; and

•

SOKIMO, the state-owned gold mining company.

The consolidated lease is made up of 10 mining concessions.

**DRC**

300km

0

Kisangani

**Kinshasa**

Lubumbashi

**Kibali**

**Mongbwalu**

Operations

Project

Bunia

CONTINENTAL AFRICA

**61**

## Mongbwalu

The Mongbwalu project is situated within the 5,033km

2

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 by Ashanti Goldfields Kilo (AGK) in a joint-venture

between AngloGold Ashanti and SOKIMO, a government body which currently holds a 13.78% non-contributory share. A feasibility

study has been completed around the old Adidi mine as part of the agreement with the DRC government. During 2013 it was decided

to suspend the implementation of the project. The project currently remains on hold.

### MINERAL RESOURCE ESTIMATION

Mineral Resource estimation is undertaken by in-house competent persons or by approved external consultants. The results both

of DD and of RC are used in the estimation process. 3D mineralised envelopes are established using grade and geology and these

are then statistically verified to confirm their validity for use in grade estimation. Appropriate domaining of homogeneous zones is

conducted whereby high-grade central core areas are modeled separately from the lower-grade surrounding halos.

Volumes are then

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

top cuts are applied to drill-hole data to prevent the spread of high grades during the estimation process. Drill-hole spacing is used to

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

quoted within a limiting shell and the underground Mineral Resource is quoted above a specified cut-off.

### CONTINENTAL AFRICA

continued

Democratic Republic of the Congo

MINERAL RESOURCE AND ORE RESERVE REPORT

2014

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## ORE RESERVE ESTIMATION

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

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

The open pit Ore Reserve shell optimisations were completed on the Mineral Resource model. This incorporated the mining layout,

operating factors, stripping ratio and relevant cut-off grade for the Ore Reserve. An open pit underground interface was determined as

optimal at 5,685 mRL between the Karagba, Chauffeur and Durba deposits (KCD) open pit and underground mine.

A cut-off grade analysis at \$1,000/oz was used to determine a cut-off grade of 2.4g/t for the underground mine.

Longitudinal and

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

Underground stope

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

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

social, legal, marketing and economic factors were adequately considered in the Kibali feasibility study and have been updated as the

project has developed for the Ore Reserve to remain viable.

CONTINENTAL AFRICA

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## CONTINENTAL AFRICA

continued

Kibali

### INTRODUCTION

Kibali is located in the north-eastern part of the Democratic Republic of the Congo (DRC) near the international borders with Uganda and Sudan. The mine is located adjacent to the village of Doko, which located in the west of the project area. Kibali is approximately 210km by road from Arua, on the Ugandan border and immediately north of the district capital of Watsa. The operations area falls within the administrative district of Haut Uélé in Orientale Province.

### GEOLOGY

Kibali is located within the Moto Greenstone Belt, which consists of Archaean Kibalian volcano-sedimentary rocks and ironstone-chert horizons that have been metamorphosed to greenschist facies. It is cut by regional scale north, east, north-east and north-west trending faults and is bounded to the north by the Middle Archaean West Nile granite-gneiss complex and the south by the Upper Zaire granitic complex.

The local geology consists of a volcano-sedimentary sequence comprising fine-grained sedimentary rocks, several varieties of pyroclastic rocks, basaltic flow rocks, mafic-intermediate intrusions (dykes and sills) and intermediate-felsic intrusive rocks (stocks, dykes and sills).

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

Several major mineralised trends have been outlined by soil geochemistry data and by the distribution of known gold mineralisation.

The Kibali-Durba-Karagba Trend and the Gorumbwa-Kombokolo Splay are anomalous with respect to gold endowment and together,

define a mineralised, north-east-striking 'mineralised corridor', 1.5km wide and 8km long. These corridors host the deposits, of Kibali,

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

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

and hosts 79% of the grant's Mineral Resource and 81% of the Ore Reserve (both for open pit and underground mining options). The

next largest deposit is Pakaka, which hosts some 6% of the Mineral Resource and 7% of the Ore Reserve. Currently only the KCD

deposit hosts an underground Ore Reserve and this constitutes 74% of the total KCD Ore Reserve.

Gold mineralisation is generally associated with structural features, resulting in tightly constrained zones which often host pods or lenses of

plunging mineralisation. Alteration is closely associated with the mineralisation and is typically carbonate-silica-albite with minor sulphide.

### EXPLORATION

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

primarily on the KCD deposit. Since the acquisition of the concession area by AngloGold Ashanti and Randgold, the dominant

exploration targets have been the KCD underground area and upgrading the confidence in the proposed KCD open pit. Kibali's

2014 exploration focused on Mineral Resource conversion drilling at Gorumbwa and Mofu satellite definition. A review of the down-plunge 3000 and 5000 lode drilling at KDC was completed during the year, and indicated that only the 5000 lode had potential for further exploration.

Regional work during the year took place at several targets, comprising mapping, soil, pit and trench sampling. RC drilling was completed at Memekazi, 2km south-east of KCD, and at the Marakeke-Megi-Gekamine target area, 5km north of KCD. The Rhino-Agbarabo IP survey completed in Q2 2014 generated several targets for follow-up work, with some positive results subsequently returned and further work planned. Trenching at Aindi Watsa, 6km south-west of KCD, continued to confirm continuity of mineralisation, which is still open to the west and down plunge. Recent field mapping at the Ikamva north-west and Kalimva targets has identified previously unknown adits and ironstone units and the area, which is approximately 15km north of KCD, is considered to have good potential.

At the regional target of Biriki-Belengo, 30km ENE of KCD, a programme of mapping, pitting, trenching and soil and stream sampling identified four target areas for investigation. Additional targets such as Dri and Ndala were assessed and rejected for further work.

A thorough data review and development of a 3D lithological model was also completed at Mofu, 10km north-west of KCD. The geological, mineralisation and weathering surface wireframes developed at Mofu were used in the updated Mineral Resource model estimation of combined oxide, transitional and fresh material.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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**PROJECTS**

Additional oxide sources from Aerodrome, Rhino, Gorumbwa and Mofu were investigated for inclusion in the mine plan. Updated

Mineral Resource models were produced for Gorumbwa and Mofu. Various iterations were run on the mine plan to optimally incorporate the various ore sources.

**MINERAL RESOURCE**

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

**Kibali**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

5 x 10

–

–

–

–

–

–

Indicated

40 x 40

X

X

–

–

–

–

Inferred

80 x 80

X

X

–

–

–

–

Grade/Ore control 5 x 10,

X

X

20 x 20

–

–

–

–

*Inclusive Mineral Resource*

**Kibali**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**  
**Category**  
**million**  
**g/t**  
**Tonnes**  
**Moz**  
*Open pit*  
 Measured  
 3.66  
 1.92  
 7.02  
 0.23  
 Indicated  
 28.19  
 2.12  
 59.67  
 1.92  
 Inferred  
 9.52  
 1.82  
 17.31  
 0.56  
 Total  
 41.37  
 2.03  
 84.00  
 2.70  
*Underground*  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 30.52  
 5.35  
 163.29  
 5.25  
 Inferred  
 14.19  
 3.13  
 44.41  
 1.43  
 Total  
 44.71  
 4.65  
 207.70

6.68  
 Kibali  
 Total  
 86.08  
 3.39  
 291.69  
 9.38  
*Exclusive Mineral Resource*

**Kibali**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**

**Category**  
**million**  
**g/t**  
**Tonnes**  
**Moz**

Measured  
 1.99  
 1.37  
 2.72  
 0.09  
 Indicated  
 21.55  
 3.20  
 68.88  
 2.21  
 Inferred  
 23.71  
 2.60  
 61.72  
 1.98  
 Total  
 47.26  
 2.82  
 133.33  
 4.29

The Exclusive Mineral Resource is primarily due to the gold price differential between the Mineral Resource and Ore Reserve. At the KCD deposit it is also partially due to the selection of a fixed interface between the open pit and the underground mining areas.

The Exclusive Mineral Resource makes up 46% of the total Mineral Resource. The Inferred Mineral Resource and the low-grade material below the underground mining cut-off forms a significant part of this material.

CONTINENTAL AFRICA

*Mineral Resource below Infrastructure*

**Kibali**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

–

–

–

–

Indicated

22.33

5.66

126.41

4.06

Inferred

10.14

3.29

33.37

1.07

Total

32.48

4.92

159.78

5.14

ORE RESERVE

*Ore Reserve*

**Kibali**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Open pit*

Proved

2.41

1.76

4.25

0.14

Probable

14.90

2.36  
 35.16  
 1.13  
 Total  
 17.31  
 2.28  
 39.41  
 1.27  
*Underground*  
 Proved

—  
 —  
 —  
 —

Probable  
 19.99  
 5.72  
 114.28  
 3.67  
 Total  
 19.99  
 5.72  
 114.28

3.67  
 Kibali  
 Total  
 37.31  
 4.12  
 153.69  
 4.94

*Ore Reserve modifying factors*

**Kibali**  
**Gold price**  
**Cut-off**  
**grade**  
**Stoping**  
**width**  
**Dilution**

**MCF**  
**MetRF**  
**31 December 2014**

**US\$/oz**  
**g/t Au**  
**cm**  
**%**  
**%**  
**%**

Open pit  
 1,000  
 0.90

—

10.0  
 100.0  
 84.5  
 Underground  
 1,000  
 2.40  
 2,000  
 2.7  
 100.0  
 88.9

*\$1,000/oz Ore Reserve price used by Randgold Resources Limited (operating partner).*

Inferred Mineral Resource in business plan

There is no Inferred Mineral Resource included in the reported Ore Reserve for Kibali. The current mine plan does not have any reliance

on the Inferred Mineral Resource to support the economic viability of the project for the main KCD deposit.

CONTINENTAL AFRICA

continued

Kibali

9.97  
 -0.46  
 0.00  
 -0.14  
 0.48  
 -0.53  
 0.06  
 0.00  
 9.38

Ounces  
 (millions)

10.0  
 9.9  
 9.8  
 9.7  
 9.6  
 9.5  
 9.4  
 9.3  
 9.2

—  
 —  
 —  
 —  
 —  
 —  
 —  
 —

2013  
 Deple-  
 tion  
 Gold  
 price



Cost  
 Explo-  
 ration  
 Metho-  
 dology  
 Other  
 Acquisition/  
 disposal  
 2014

**Kibali**

Mineral Resource reconciliation: 2013 – 2014

–  
 –  
 –  
 –  
 –  
 –  
 –  
 –  
 –  
 5.17  
 -0.30  
 -0.00  
 -0.02  
 0.10  
 0.00  
 0.00  
 0.00  
 4.94  
 Ounces  
 (millions)  
 5.20  
 5.15  
 5.10  
 5.05  
 5.00  
 4.95  
 4.90  
 4.85  
 4.80  
 4.75  
 2013  
 Other  
 2014  
**Kibali**  
 Deple-  
 tion  
 Model  
 change  
 Economics  
 New

ounces

from

Projects

Scope

Change

Acquisition/

Disposal

Ore Reserve reconciliation: 2013 – 2014

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**66**

*Ore Reserve below infrastructure*

**Kibali**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Proved

–

–

–

–

Probable

16.92

5.79

97.98

3.15

Total

16.92

5.79

97.98

3.15

COMPETENT PERSONS

**Kibali**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

and Ore Reserve

Rodney Quick\*

SACNASP

400014/05

21 years

BSc Hons (Geology)

MSc (Geology)

\* *Employed by Randgold Resources Limited at 3rd Floor, Unity Chambers, 28 Halkett Street, St Helier, Jersey, OJE2.*

0

2

1

4

3

5  
7  
8  
9  
10  
6  
Tonnes  
above  
cut-off  
(millions)  
Average  
grade  
above  
cut-off  
(g/t)  
Cut-off grade (g/t)  
14  
12  
10  
8  
6  
4  
2  
0  
45  
40  
35  
30  
25  
20  
15  
10  
5  
0  
Tonnes above cut-off  
Ave grade above cut-off

**Kibali**

Grade tonnage curve – Surface (metric)

–  
–  
–  
–  
–  
–  
–  
–  
–  
0  
1  
2  
3

4  
5  
6  
7  
8  
9  
10  
Tonnes  
above  
cut-off  
(millions)  
Average  
grade  
above  
cut-off  
(g/t)  
Cut-off grade (g/t)

14  
12  
10  
8  
6  
4  
2  
0  
100  
90  
80  
70  
60  
50  
40  
30  
20  
10  
0

Tonnes above cut-off  
Ave grade above cut-off

**Kibali**

Grade tonnage curve – Underground (metric)

–  
–  
–  
–  
–  
–  
–  
–  
–  
–

CONTINENTAL AFRICA

## CONTINENTAL AFRICA

continued

Mongbwalu

### INTRODUCTION

The Mongbwalu project covers an area of 396km

2

which forms part of the larger Ashanti Goldfields Kilo (AGK) concession of exploitation licences, totalling 5,033km

2

in the Ituri province of the north-eastern DRC. In 2013, after a careful review of the company's portfolio, the decision was taken to suspend the development of the Mongbwalu project. The project remains in care and maintenance. The district

capital of Bunia lies to the south-east of the concession area, some three hours by road from the project site. Bunia is approximately

one hour's flight from the nearest international airport at Kampala in Uganda.

### GEOLOGY

The Mongbwalu project is located in the Kilo Archaean granite-greenstone belt, approximately 3,000km

2

in area and situated 850km

west-northwest of Lake Albert. The Kibalian rocks have been divided into an upper and lower unit. The lower unit is dominated

by magnesium-rich tholeiitic basalts whilst the upper unit is dominated by schists, quartzites and banded ironstone formations.

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

The oldest known rocks at Mongbwalu are basement gneisses which have been dated at more than 3,400 Ma.

Granitoid rocks

comprise more than 80% of the area, which includes rafts of Kibalian rocks, intruded by diorites of variable mineralogy, dated at

2,651 Ma.

The Kilo Archaean granite-greenstone belt was part of the Tanzania shield but was separated by Late Proterozoic crustal mobilisation

and then by later rifting along the eastern Rift Valley system. The rocks have undergone regional metamorphism, ranging from upper

greenschist to lower amphibolite facies. During the formation of the East African rift system over the past 100 – 200Ma, north-south

faults formed, along which dolerite-lamprophyre dykes were intruded. There is also evidence of some younger faulting in the region.

The area has undergone weak lateritic weathering to shallow depths. Cover sequences are thin and are generally no greater than

1m thick.

The mineralisation at Mongbwalu is hosted in anastomosing mylonite bodies of around 10 – 15m in width. These mylonite bodies have

been subdivided into three main blocks separated by the late north-south trending Nzebi and Adidi faults, which offset mineralisation

by up to 200m. The fault blocks are termed the Western, Central and Eastern blocks – hosting the Nzebi, Adidi and Kanga mylonites

respectively.

### EXPLORATION

All major exploration activities were suspended in August 2013. No exploration activities were conducted during 2014.

### PROJECTS

The project is currently on hold.

MINERAL RESOURCE

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

**Mongbwalu**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

RC

Blasthole

Channel

Other

**Comments**

Measured

-

-

-

-

-

-

-

Indicated

50 x 25

X

X

-

-

-

-

Inferred

100 x 100

X

X

-

-

-

-

Grade/Ore control

-

-

-

-

-

-

MINERAL RESOURCE AND ORE RESERVE REPORT

2014

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*Inclusive Mineral Resource*

**Mongbwalu**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Underground*

Measured

–

–

–

–

Indicated

4.68

7.64

35.74

1.15

Inferred

5.56

7.65

42.58

1.37

Total

10.24

7.65

78.32

2.52

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

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

to the fact that the development project has not advanced, all the Mineral Resource is exclusive and below infrastructure.

**COMPETENT PERSONS**

**Mongbwalu**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

Vasu Govindsammy



SACNASP

400086/04

18 years

BSc (Stats)

HND (Economic Geology)

MEng (Mineral Economics and

Geostatics)

2.52

0.00

0.00

0.00

0.00

0.00

0.00

0.00

2.52

Ounces

(millions)

2.52

2.50

2.48

–

–

2013

Deple-

tion

Gold

price

Cost

Explo-

ration

Metho-

dology

Other

Acquisition/

disposal

2014

**Mongbwalu**

Mineral Resource reconciliation: 2013 – 2014

–

–

–

–

–

–

0

1

2

3

4

5

6

7

8

Tonnes

above

cut-off

(millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

14

12

10

8

6

4

2

30

25

20

15

10

5

0

Tonnes above cut-off

Ave grade above cut-off

**Mongbwalu**

Grade tonnage curve – Underground (metric)

CONTINENTAL AFRICA

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CONTINENTAL AFRICA

continued

Ghana

0

300km

Operations

Obuasi

Bolgatanga

**GHANA**

Tamale

Kumasi

Lake

Volta

Accra

Iduapriem

Tarkwa

Skondi Takoradi

COUNTRY OVERVIEW

AngloGold Ashanti has two mines in Ghana: Obuasi, which has surface and underground operations, and Iduapriem, an

open pit mine. Obuasi and Iduapriem are both wholly owned by AngloGold Ashanti. Obuasi is located in the Ashanti region of

southern Ghana, approximately 80km south of Kumasi. It is primarily an underground mine operating at depths of up to 1,500m with

a continuous history of mining dating back to the 1890s. Iduapriem is located in western Ghana, some 85km from the coast and is

currently an open pit operation.

MINERAL RESOURCE ESTIMATION

For the Obuasi Underground the latest geological mapping, sampling and drilling Information, is used to update the relevant

underground mineralisation wireframes on a monthly basis. Block models are estimated within the delineated mineralised ore zones

using Ordinary Kriging. The geological interpretation is based on diamond drill and cross-cut sampling information.

Estimates at

Obuasi are based on a block model comprised of 20m x 5m x 15m blocks, which approximate the minimum selective mining unit

(SMU) for underground mining.

The open pit Mineral Resource at both Obuasi and Iduapriem were estimated by geostatistical techniques within 3D wireframe

models of the mineralisation. These models are based on geological information and cut-off boundaries defined by sampling results.

Geological interpretation is based on trench and reverse RC and/or DD drilling. Estimation is by Ordinary Kriging into 30m x 30m x 10m

blocks for Obuasi open pit and into 10m x 25m x 12m for Iduapriem open pit.

Surface stockpiles volumes are based on surveys and grades based on historical sampling. Tailings are part of the Mineral Resource

with estimated tonnes and grades based on combinations of 3D block models and historical metallurgical discharge data.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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## ORE RESERVE ESTIMATION

The 3D Mineral Resource models are used as the basis for the Ore Reserve. A mineralisation envelope is developed using the Mineral

Resource block model, geological information and the relevant cut-off grade, which is then used for mine design. An appropriate

mining layout is designed that incorporates mining extraction losses and dilution factors.

Obuasi underground:

All mine designs are done to delineate stopes by taking into consideration cut-off grade, geotechnical design parameters for each

mining block, mining level and section, usually leading to an extension to the existing mining sequence, and corresponding development

layouts. The underground operationally runs to a depth of 1,500m from surface. Mining levels lie between 15 and 20m intervals with

major levels between 30-60m intervals. Underground production is made up of open-stope mining (both longitudinal and transverse),

and sub-level caving methods.

Iduapriem open pit:

The Ore Reserve is estimated within mine designs based on modifying factors based on actual mining and detailed analysis of

cut-off grade, geotechnical, environmental, productivity considerations and the requirements of the mining fleet. The upper portions

of the Ajopa deposit have been discounted for the estimated depletion by artisanal miners. This discount factor has been derived

from observation and estimates based on the Mineral Resource model.

CONTINENTAL AFRICA

## CONTINENTAL AFRICA

continued

Iduapriem

### INTRODUCTION

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 4.7 million tonnes per annum (Mtpa) carbon-in-pulp (CIP) plant with a gravity circuit. The gravity feed recovers about 30% of

the gold and the CIP plant recovers most of the remainder.

Iduapriem is bordered to the north by Gold Fields (Ghana) Ltd's Tarkwa mine and to the east by Ghana Manganese Company (GMC)

– a manganese mine which has existed since the 1920s.

### GEOLOGY

Iduapriem is located within the Tarkwaian Group of rocks that form part of the West Africa Craton which is covered to a large extent

by metavolcanics and metasediments of the Birimian Supergroup. In Ghana, the Birimian terrane consists of north-east/south-west

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

sediments. The gold mineralisation at Iduapriem is hosted in the Proterozoic Banket Series conglomerates that were developed within

these sediments.

The Banket Reef Zone (BRZ) comprises a sequence of individual beds of quartz pebble conglomerate, breccia conglomerate, quartzite

and grit. The outcropping Banket Series in the mine lease area forms prominent curved ridges that extend southwards from Tarkwa,

westwards through Iduapriem and northwards towards Teberebie.

All known gold mineralisation within the Banket Series is associated with the conglomerates and is found within the matrix that binds

the pebbles together. The gold content is a function of the size and amount of packing of the quartz pebbles within the conglomeratic

units. At Iduapriem, the gold mineralisation is unrelated to metamorphic or hydrothermal alteration events and the gold is coarse-

grained, particulate and free-milling. Mineralogical studies indicate that the grain size of native gold particles ranges between 2µm

and 500µm and averages 130µm. Sulphides are present only at trace levels and are not associated with the gold.

Haematite is often

extremely well developed on cross-bed foresets and the conglomerates often show strong haematite development in the matrix.

### EXPLORATION

In 2014, core logging and processing of back logged Block 7&8 surface exploration holes was completed. Mapping of Block 7

south-west continued with face and final-wall mapping. The mapping revealed the coalescence of individual reefs to form a single

conglomerate unit, with evidence of duplication of the reef sequence.

Outcrop mapping around the northern extensions of Block 5 and Block 4 was carried out.

The Main Basin 3D geological model, has been completed by the site and regional evaluation team.

### MINERAL RESOURCE

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

**Iduapriem**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

50 x 50,

X

X

50 x 75,

100 x 50

–

–

–

–

Indicated

50 x 75,

X

X

50 x 100,

100 x 75

–

–

–

–

Inferred

100 x 100

X

X

–

–

–

–

Grade/Ore control 10 x 12,

10 x 15

–

X

–

–

–

–

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**72**

*Inclusive Mineral Resource*

**Iduapriem**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Ajopa*

Measured

–

–

–

–

Indicated

6.69

1.77

11.80

0.38

Inferred

2.51

1.98

4.95

0.16

Total

9.19

1.82

16.76

0.54

*Block 3W*

Measured

–

–

–

–

Indicated

5.43

1.20

6.49

0.21

Inferred

8.64

1.19

10.26

0.33

Total

14.07

1.19

16.76

0.54

*Block 5*

Measured

–

–

–

–

Indicated

0.02

1.08

0.02

0.00

Inferred

1.69

1.07

1.80

0.06

Total

1.71

1.07

1.82

0.06

*Block 7 and 8 west cutback*

Measured

5.00

1.39

6.96

0.22

Indicated

4.84

1.44

6.98

0.22

Inferred

2.13

1.48

3.16

0.10

Total

11.96

1.43

17.10

0.55

*Block 7 and 8 east cutback*

Measured

1.77

1.44

2.55

0.08

Indicated



18.47

1.72

31.77

1.02

Inferred

2.56

1.43

3.65

0.12

Total

22.80

1.67

37.97

1.22

*Block 7 and 8 other*

Measured

3.03

1.26

3.82

0.12

Indicated

25.65

1.64

42.02

1.35

Inferred

34.59

1.61

55.64

1.79

Total

63.26

1.60

101.48

3.26

*Stockpile (full grade ore)*

Measured

3.63

0.89

3.23

0.10

Indicated

—

—

—

—

Inferred

—

—

—

—

Total

3.63

0.89

3.23

0.10

*Stockpile (other)*

Measured

—

—

—

—

Indicated

—

—

—

—

Inferred

21.00

0.49

10.35

0.33

Total

21.00

0.49

10.35

0.33

*Stockpile (marginal ore)*

Measured

0.27

0.62

0.17

0.01

Indicated

—

—

—

—

Inferred

—

—

—

—

Total

0.27

0.62

0.17

0.01

Iduapriem

Total

147.90

1.39

205.64

6.61

CONTINENTAL AFRICA

73

*Exclusive Mineral Resource*

**Iduapriem**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

3.51

1.42

4.99

0.16

Indicated

36.50

1.59

57.98

1.86

Inferred

73.12

1.23

89.82

2.89

Total

113.13

1.35

152.79

4.91

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

•

Inferred Mineral Resource and lower-grade material that does not make the Ore Reserve cut-off grade 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 and are largely categorised as Inferred

Mineral Resource.

CONTINENTAL AFRICA

continued

Iduapriem

6.34

-0.19

0.00

0.00

0.31

0.10

0.05  
 0.00  
 6.61  
 Ounces  
 (millions)  
 6.65  
 6.60  
 6.55  
 6.50  
 6.45  
 6.40  
 6.35  
 6.30  
 6.25  
 6.20  
 6.15  
 6.10

-  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -

2013  
 Deple-  
 tion  
 Gold  
 price  
 Cost  
 Explo-  
 ration  
 Metho-  
 dology  
 Other  
 Acquisition/  
 disposal  
 2014

**Iduapriem**  
 Mineral Resource reconciliation: 2013 – 2014  
 1.97  
 -0.17  
 -0.01  
 -0.15  
 0.00  
 0.05  
 0.01

0.00  
1.70  
Ounces  
(millions)  
2.00  
1.95  
1.90  
1.85  
1.80  
1.75  
1.70  
1.65  
1.60  
1.55

–  
–  
–  
–  
–  
–  
–  
–  
–  
–

2013  
Other  
2014

**Iduapriem**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
tion

Model  
change

Change in  
economics

New  
ounces

from  
projects

Scope  
change

Acquisition/  
disposal

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**74**

ORE RESERVE

*Ore Reserve*

**Iduapriem**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Ajopa*

Proved

–

–

–

–

Probable

2.83

1.93

5.46

0.18

Total

2.83

1.93

5.46

0.18

*Block 3W*

Proved

–

–

–

–

Probable

0.12

1.04

0.13

0.00

Total

0.12

1.04

0.13

0.00

*Block 7 and 8 west cutback*

Proved

4.86

1.31

6.38

0.21

Probable

4.18  
1.43  
5.95  
0.19  
Total  
9.03  
1.36  
12.33  
0.40  
*Block 7 and 8 east cutback*  
Proved  
1.43  
1.37  
1.96  
0.06  
Probable  
17.45  
1.69  
29.57  
0.95  
Total  
18.88  
1.67  
31.53  
1.01  
*Stockpile (full grade ore)*  
Proved  
3.63  
0.89  
3.23  
0.10  
Probable  
—  
—  
—  
—  
Total  
3.63  
0.89  
3.23  
0.10  
*Stockpile (marginal ore)*  
Proved  
0.27  
0.62  
0.17  
0.01  
Probable  
—  
—  
—



–  
 Total  
 0.27  
 0.62  
 0.17  
 0.01  
 Iduapriem  
 Total  
 34.77  
 1.52  
 52.85  
 1.70  
*Ore Reserve modifying factors*  
**Iduapriem**  
**Gold**  
**price**  
**Cut-off**  
**grade**  
**% MRF**  
**MCF**  
**MetRF**  
**31 December 2014**  
**US\$/oz**  
**g/t Au**  
**(based on g/t)**  
**%**  
**%**  
 Ajopa  
 1,100  
 0.77  
 94.0  
 100.0  
 95.0  
 Block 3W  
 1,100  
 0.75  
 94.0  
 100.0  
 95.0  
 Block 7 and 8  
 east cutback  
 1,100  
 0.77  
 94.0  
 100.0  
 95.0  
 Block 7 and 8  
 west cutback  
 1,100  
 0.77  
 94.0

100.0

95.0

Stockpile (full grade ore)

1,100

0.58

94.0

100.0

95.0

Stockpile (marginal ore)

1,100

0.58

100.0

100.0

92.0

CONTINENTAL AFRICA

**75**

*Inferred Mineral Resource in business plan*

**Iduapriem**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Ajopa

0.24

2.03

0.49

0.02

Block 3W

0.10

0.98

0.10

0.00

Block 7 and 8

west cutback

1.13

1.38

1.56

0.05

Block 7 and 8

east cutback

1.62

1.52

2.46

0.08

Total

3.09

1.49

4.60

0.15

The Inferred Mineral Resource within the Ore Reserve design is 9% of the total ore scheduled and exists as pockets of Inferred Mineral

Resource material located within the models of all the deposits.

**COMPETENT PERSONS**

**Iduapriem**

**Category**

**Competent person**

**Professional  
organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

Tebogo Mushi

SAIMM

702 438

13 years

BSc (Hons) Mining Engineering

GDE (Mineral Economics)

Ore Reserve

Stephen Asante Yamoah

MAusIMM

304 095

10 years

BSc (Hons) Mining Engineering

MSc (Mining Engineering)

CONTINENTAL AFRICA

continued

Iduapriem

0.15

0.65

0.40

1.15

0.90

1.40

1.90

1.65

T

tonnes above cut-off (millions)

A

average grade above cut-off (g/t)

Cut-off grade (g/t)

2.5

2.3

2.1

1.9

1.7

1.5

1.3

140

120

100

80

60

40

20

0

Tonnes above cut-off

Average grade above cut-off

**Iduapriem**

Grade tonnage curve – Surface (metric)

–

-  
-  
-  
-  
-  
-

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**76**

## CONTINENTAL AFRICA

### Obuasi

#### INTRODUCTION

Obuasi mine is located in the Ashanti Region of Ghana some 320km north-west of the capital Accra. The mine is situated in a largely forested region, with surrounding land occupied by subsistence farmers. The mining concession covers an area of 47.5ha. Eighty communities lie within a 30km radius of the mine. Underground production was suspended in late 2014 awaiting the outcome of a feasibility study for 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 one of the most significant Proterozoic gold belts discovered to date. The Ashanti belt predominantly comprises sedimentary and mafic volcanic rocks, and is the most prominent of the five Birimian Supergroup gold belts found in Ghana. The belt is a 300km wrench-fault system that propagated from Dixcove in the 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-northeast 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. Gold mineralisation is associated with, and occurs within, graphite-chlorite-sericite fault zones. These shear zones are commonly associated with pervasive silica, carbonate and sulphide hydrothermal alteration and occur in tightly-folded Lower Birimian schists, phyllites meta-greywackes, and tuffs, along the eastern limb of the Kumasi anticlinorium. Mineralised shears are found in close proximity to the 'contact' with harder metamorphosed and metasomatically-altered intermediate to basic Upper Birimian volcanics. The competency contrast between the harder metavolcanic rocks to the east and the more argillaceous rocks to the west is thought to have formed a plane of weakness. During crustal movement, this plane became a zone of shearing and thrusting coeval with the compressional phases. The Lower Birimian metasediments and metavolcanics are characterised and defined by argillaceous and fine to intermediate arenaceous rocks. These rocks are represented by phyllites, meta siltstones, meta greywackes, tuffaceous sediments, ash tuffs and hornstones in order of decreasing importance. Adjacent to the shear zones, these rocks are replaced by sericitic, chloritic and carbonaceous schists, which may be graphitic in places. Multiple lodes are a common feature in the mine. Granites outcrop in the west and north-west of the concession area and intrude the Birimian rocks only. Two types of granite are present, one is more resistant to weathering than the other, with less-resistant granite being prospective for gold mineralisation. Two main ore types are mined, namely quartz vein and sulphide ore. The quartz vein type consists mainly of quartz with free gold

in association with lesser amounts of various metal sulphides containing iron, zinc, lead and copper. This ore type is generally non-refractory. Sulphide ore is characterised by the inclusion of gold in the crystal structure of arsenopyrite minerals. Higher gold grades tend to be associated with finer grain arsenopyrite crystals. Sulphide ore is generally refractory.

#### EXPLORATION

Exploration in 2014 focused on part of Red Zone 6 (Block 9) project area above 50 level. The objective of the drilling programme was to upgrade the Inferred Mineral Resource. Twenty Four (24) holes with total depth of 4,115m were completed.

#### PROJECTS

Underground production was suspended in late 2014; with activities restricted to production from developed stopes and the processing of surface mining tailings. A detailed feasibility study using input from international consultants began, following on from an earlier in-house study.

The feasibility study is considering the optimum mining methodology and schedule for the underground mine, based on modern mechanised mining methods and refurbishment of underground, surface and process plant infrastructure. A significant rationalisation and/or replacement of current infrastructure will enable the delivery of high utilisation and productivity metrics. During the limited operating phase, underground activities will essentially be limited to continued development of the Obuasi Deeps' Decline and underground infill drilling.

#### CONTINENTAL AFRICA

CONTINENTAL AFRICA

continued

Obuasi

The feasibility study will be finalised during 2015, when the schedule for potential re-start of underground production can be determined.

MINERAL RESOURCE

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

**Obuasi**

**Type of drilling**

**Category**

**Spacing**

**m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

20 x 20,

X

X

X

40 x 20,

50 x 50

–

X

Percussion drilling for

open pits

Indicated

30 x 30,

X

X

50 x 50,

60 x 60

–

–

X

Percussion drilling for open

pits and discharge sampling

for tailings

Inferred

90 x 90,

X

X

100 x 100,

120 x 120

–

X

Percussion drilling for

open pits and discharge



sampling for tailings

Grade/Ore

control

10 x 10

X

X

–

X

–

Channel sampling for cross  
cuts and definition drilling

*Inclusive Mineral Resource*

**Obuasi**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Anyankyirem*

Measured

–

–

–

–

Indicated

5.53

2.37

13.14

0.42

Inferred

0.11

2.50

0.27

0.01

Total

5.64

2.38

13.41

0.43

*Anyinam*

Measured

0.00

2.50

0.01

0.00

Indicated

0.45

3.54  
 1.59  
 0.05  
 Inferred  
 1.02  
 4.24  
 4.33  
 0.14  
 Total  
 1.47  
 4.02  
 5.93  
 0.19  
*Gyabunsu-Sibi*  
 Measured  
 0.05  
 4.00  
 0.21  
 0.01  
 Indicated  
 0.05  
 3.48  
 0.16  
 0.01  
 Inferred  
 0.28  
 3.97  
 1.13  
 0.04  
 Total  
 0.38  
 3.92  
 1.50  
 0.05  
*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

0.88

2.40

2.11

0.07

Inferred

—

—

—

—

Total

0.88

2.40

2.11

0.07

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**78**

*Inclusive Mineral Resource*

**Obuasi**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Upper mine*

Measured

2.19

10.10

22.12

0.71

Indicated

2.49

7.67

19.09

0.61

Inferred

0.94

6.00

5.63

0.18

Total

5.62

8.34

46.85

1.51

*Above 50 base*

Measured

23.47

6.87

161.23

5.18

Indicated

37.05

5.81

215.18

6.92

Inferred

25.61

6.10

156.18

5.02

Total

86.12

6.18

532.59

17.12

*Adansi 50-60*

Measured

2.16

5.28

11.38

0.37

Indicated

1.83

4.46

8.15

0.26

Inferred

6.54

5.03

32.89

1.06

Total

10.52

4.98

52.42

1.69

*Stockpile (heap leach)*

Measured

1.08

0.58

0.63

0.02

Indicated

—

—

—

—

Inferred

—

—

—

—

Total

1.08

0.58

0.63

0.02

*Stockpile (surface oxides)*

Measured

0.02

1.70

0.04

0.00

Indicated

—  
—  
—  
—  
Inferred  
—  
—  
—  
—  
Total  
0.02  
1.70  
0.04  
0.00  
*KMS 50-60*  
Measured  
—  
—  
—  
—  
Indicated  
3.53  
18.67  
65.96  
2.12  
Inferred  
6.08  
11.01  
66.94  
2.15  
Total  
9.61  
13.82  
132.90  
4.27  
*Stockpile (surface sulphides)*  
Measured  
0.05  
2.58  
0.13  
0.00  
Indicated  
—  
—  
—  
—  
Inferred  
—  
—  
—  
—

Total

0.05

2.58

0.13

0.00

Obuasi

Total

159.89

5.32

850.96

27.36

*Exclusive Mineral Resource*

**Obuasi**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

26.13

6.44

168.28

5.41

Indicated

38.85

5.08

197.49

6.35

Inferred

73.16

4.29

313.74

10.09

Total

138.13

4.92

679.51

21.85

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

Exclusive Mineral Resource is from underground.

CONTINENTAL AFRICA

**79**

*Mineral Resource below infrastructure*

**Obuasi**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

2.16

5.28

11.38

0.37

Indicated

5.36

13.82

74.11

2.38

Inferred

12.62

7.91

99.83

3.21

Total

20.13

9.20

185.32

5.96

ORE RESERVE

*Ore Reserve*

**Obuasi**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Tailings (Kokoteasua)*

Proved

3.22

1.97

6.33

0.20

Probable

1.65



1.96  
 3.24  
 0.10  
 Total  
 4.87  
 1.96  
 9.57  
 0.31  
*Other surface resources*  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 0.88  
 2.40  
 2.11  
 0.07  
 Total  
 0.88  
 2.40  
 2.11  
 0.07  
*Above 50 base*  
 Proved  
 4.10  
 7.47  
 30.65  
 0.99  
 Probable  
 13.09  
 6.70  
 87.66  
 2.82  
 Total  
 17.19  
 6.88  
 118.31  
 3.80  
*KMS 50-60*  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 1.59  
 21.65  
 34.43  
 1.11

Total

1.59

21.65

34.43

1.11

Obuasi

Total

24.53

6.70

164.42

5.29

CONTINENTAL AFRICA

continued

Obuasi

27.39

-0.36

0.00

0.00

0.05

0.27

0.00

0.00

27.36

Ounces

(millions)

27.40

27.35

27.30

27.25

27.20

27.15

27.10

27.05

27.00

26.95

-

-

-

-

-

-

-

-

-

2013

Deple-  
tion

Gold  
price

Cost

Explo-

ration  
 Metho-  
 dology  
 Other  
 Acquisition/  
 disposal  
 2014

**Obuasi**

Mineral Resource reconciliation: 2013 – 2014

8.14  
 -0.23  
 0.00  
 -2.38  
 0.00  
 -0.26  
 0.02  
 0.00  
 5.29  
 Ounces  
 (millions)  
 8.5  
 8.0  
 7.5  
 7.0  
 6.5  
 6.0  
 5.5  
 5.0  
 4.5  
 –  
 –  
 –  
 –  
 –  
 –  
 –  
 –

2013

Other

2014

**Obuasi**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
 tion  
 Model  
 change  
 Economics  
 New  
 ounces  
 from  
 Projects

Scope

Change

Acquisition/

Disposal

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**80**

*Inferred Mineral Resource in business plan*

**Obuasi**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Above 50 Base

2.44

6.68

16.29

0.52

KMS 50-60

0.98

15.24

14.87

0.48

Total

3.41

9.13

31.16

1.00

*Ore Reserve modifying factors*

**Obuasi**

**Gold price Cut-off grade**

**Dilution**

**MCF**

**MetRF**

**31 December 2014**

**US\$/oz**

**g/t Au**

**%**

**%**

**%**

Above 50 base

1,100

4.30

23.0

100.0

87.0

KMS 50-60

1,100

5.20

29.0

100.0

87.0

Tailings (Kokoteasua)

1,100

1.00

–

–

41.0

Obuasi other surface Resources

1,100

1.00

–

–

41.0

*Longitudinal and longitudinal retreat longhole stopes have dilution factors between 16 – 29%, transverse open-stopess between 10 – 12%.*

*All mining blocks for feasibility study have their own cutt-off value, ranging from 4.00g/t – 5.20 g/t.*

*Ore Reserve below infrastructure*

**Obuasi**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Proved

–

–

–

–

Probable

1.59

21.65

34.43

1.11

Total

1.59

21.65

34.43

1.11

COMPETENT PERSONS

**Obuasi**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

Clement Asamoah-Owusu

MAusIMM

210 145

30 years

BSc (Hons) Geological Engineering

MSc (Mineral Exploration)

Ore Reserve

Christian Boafo

MAusIMM

312 532

17 years

Graduate Dipl. (Mining)

0.0

1.5

0.5

1.0

3.0

2.0

2.5

3.5

4.5

5.0

4.0

Tonnes

above

cut-off

(millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

6.0

5.0

4.0

3.0

2.0

1.0

16

14

12

10

8

6

4

2

0

Tonnes above cut-off

Ave grade above cut-off

**Obuasi**

Grade tonnage curve – Surface (metric)

–  
–  
–  
–  
–  
–  
–  
–  
–  
0  
2  
4  
6  
8  
10  
12  
14  
16  
18  
20  
Tonnes  
above  
cut-off  
(millions)  
Average  
grade  
above  
cut-off  
(g/t)  
Cut-off grade (g/t)  
40  
35  
30  
25  
20  
15  
10  
5  
0  
120  
100  
80  
60  
40  
20  
0  
Tonnes above cut-off  
Ave grade above cut-off  
**Obuasi**



Grade tonnage curve – Underground (metric)

–  
–  
–  
–  
–  
–  
–  
–  
–  
–

CONTINENTAL AFRICA

**81**

## COUNTRY OVERVIEW

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

## MINERAL RESOURCE ESTIMATION

Mineral Resource definition drilling is done with aircore (AC), RC and DD. All available geological drill-hole information is validated for usage in the models and together with the local geology of the deposit an understanding of grade variability is used to classify the drill-hole information into appropriate estimation domains. Detailed statistical analyses are conducted on each of these domains and this allows for the identification of high-grade outlier values. If these values are anomalous to the general population characteristics they may be cut, that is reduced back to the appropriate upper limit of the population. The Mineral Resource model is estimated using Ordinary Kriging into a 3D block model. Geological interpretation is based on geological drill-hole data. The dimensions of these Mineral Resource blocks range from 10m x 10m x 2.5m to 50m x 25m x 6m block sizes, guided by the shape of the deposit and the drilling density. The Mineral Resource is declared within an optimised limiting Mineral Resource pit shell using a gold price, of \$1,600/oz.

## ORE RESERVE ESTIMATION

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

## CONTINENTAL AFRICA

continued

Guinea

0

200km

Operations

Siguiri

## GUINEA

Kankan

Dabola

Labe

Conakry

## MINERAL RESOURCE AND ORE RESERVE REPORT

2014

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CONTINENTAL AFRICA

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## INTRODUCTION

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

Société Ashanti Goldfields de Guinée (SAG) mining concession consists of four blocks totaling 1,495km<sup>2</sup>

Gold mining in the district can be traced back for centuries, but there are no reliable records of pre-Western production. The French

became involved in the area in the late-19th and early-20th centuries. Between 1931 and 1951 the French reported gold coming out

of Siguiri, with figures varying between 1 and 3.8 tonnes annually, however little exploration work was completed.

There was a phase

of Russian exploration in the area between 1960 and 1963. The Russian work focused on the placer deposits along the major river

channels in the area. In 1980 SOMIQ (Société Minière Internationale du Quebec) gained the exploration rights for Siguiri and Mandiana.

SOMIQ focused its work on the Koron and Didi areas. The Chevaning Mining Company Ltd. was then created to undertake a detailed

economic evaluation of the prospect, with more intensive work beginning in the late 1980s. AuG (Société Aurifère de Guinée) took

over from its predecessors and continued work on the placer deposits. Production on the Koron placer reached a peak in 1992 with

1.1t gold being produced, although due to a number of difficulties the mine was shut down later that year.

Golden Shamrock started a pre-feasibility study in 1995 after which Ashanti Goldfields became interested in the deposit and Siguiri

mine started production in 1998 as Société Ashanti Goldfields de Guinée (SAG). In 2004 the merger of AngloGold and Ashanti resulted

in the operation being run by AngloGold Ashanti. Siguiri is currently a multi-pit oxide gold mining operation. All ore and waste is mined

by a mining contractor utilising backhoe excavators and trucks. Most material is free dig with very limited “paddock blasting” in soft

laterites and saprolite and hard-rock blasting in Duricrust. Processing of the ore is done by a CIP plant which has been successfully

optimised to reach throughput of 11.5Mt per annum.

## GEOLOGY

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

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

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

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

• eluvial or alluvial hosted laterite mineralisation; and

• primary quartz vein and associated shear hosted mineralisation.

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

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

The main vein-related mineralisation at Siguiri is structurally controlled and associated with a major, east-northeast trending and steep south-dipping sheeted quartz vein sets that generally occur in the coarser, brittle siltstone and sandstone lithologies. The regional development and consistent orientation of this main vein set, irrespective of the nature of wall rocks or wall-rock structures, indicates the control of these veins by regional strains. A deep oxidation (weathering) profile is developed in the region, varying between 50m to 150m. The mineralised saprolite provides the main oxide feedstock for the CIP plant. The previous practice at Siguiri was to blend the laterite and saprolite ore types and to process these using the heap leach method. With the percentage of available laterite ore decreasing, a CIP plant was brought on stream during 2005 to treat predominantly saprolite oxide ore. With continued exploration into deeper fresh-rock extensions of the ore deposit, new treatment options are again under consideration.

CONTINENTAL AFRICA

continued

Siguiri

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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## EXPLORATION

Exploration at Siguiri was historically focused on finding a new oxide Mineral Resource in the saprolite, and upgrading the confidence

in the existing oxide Mineral Resource. This is achieved using geophysics, soil geochemistry and drill-hole sampling in the context

of the regional and pit-scale geological models. Following the completion of an Asset Strategy Optimisation project in 2012, which

indicated the potential economic viability of the fresh-rock material, the aim of the exploration has expanded and the objectives are

twofold. Firstly, there is an aim to explore for replacement and additional oxide material for short-term mining requirements. The second

objective of the exploration programme is to increase the level of confidence in the five major fresh-rock targets below the oxide pits

at Bidini, Kami, Kalamagna, Seguélén and Sintroko. In 2014, a total of 21,097m of drilling was completed by the exploration team.

As part of the oxide exploration programme, 2,538m of RC and AC drilling was conducted on two of the reconnaissance targets.

1,583m of infill RC drilling was conducted at Seguélén to better understand the occurrence of carbonaceous layers in the lower

saprolite and transition zone towards the base of the current pit designs. 2,181m of RC infill drilling was completed to upgrade

the Mineral Resource on the south western extension of Sokunu Pit. An intensive field re-mapping programme was conducted

in the first half of the year to ground-truth 19 reconnaissance exploration targets which will be used to prioritize follow up drilling

work in 2015. This was followed up with an intensive pit mapping exercise in the second half of the year to provide further detailed

information for the update of the Siguiri geological model and map that was developed in 2013.

The fresh-rock exploration programme focused on infill drilling below the Kami Pit to upgrade the material within a \$1,600/oz fresh-

rock pit shell to Inferred and Indicated Mineral Resource classification. This pit shell equates to approximately 200m to 250m below

the base of the current oxide pit shell. 3,085m of RC drilling, 7,685m of RC-DD and 1,874m of DD drilling was completed during this

programme. In addition, 737m of DD drilling was completed specifically for the purpose of obtaining ore intersections for metallurgical

test work. Two smaller RC programmes were completed to provide reconnaissance information on the down dip extensions at

Kalamagna Pushback 3 (804m) and Sokunu (610m) after mining in these two oxide pits was completed during the year. During 2015

the focus will be to complete infill drilling on the Bidini fresh-rock orebody to bring a significant portion of the Mineral Resource to

Indicated Mineral Resource.

## PROJECTS

The University of Western Australia – Centre for Exploration Targeting, research project was concluded in 2014. The project culminated

in a targeting workshop for Block 1 which confirmed previous targets, introduced several new targets and provided valuable information

that will assist with ranking and prioritization of 2015 and 2016 work programmes.

The Greenfields exploration programme in Blocks 2, 3 and 4 was concluded in 2014 and the projects have been handed over to

the Brownfields exploration team. The 2015 work programme will focus on detailed geological investigations and grade engineering projects for the three advanced stage deposits with the aim of identifying options for these to add increased value to the current life of mine plan. Follow up drilling on extensions to one of these deposits as well as reconnaissance exploration work on several subsidiary targets is also planned.

During 2014 significant progress was made on the prefeasibility study for the Siguiri combination plant. The combination plant would see the addition of the capability to process a combination of oxide and fresh-rock. The encouraging results of the prefeasibility study resulted in the declaration of the maiden fresh-rock Mineral Resource at Kami, Bidini, Tubani pits and the maiden fresh-rock Ore Reserve at Kami. The project is planned to advance to feasibility study stage in 2015. Core samples from drill-holes in Bidini and Kami were selected and submitted for preliminary metallurgical testing.

CONTINENTAL AFRICA

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MINERAL RESOURCE

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

**Siguiri**

**Type of drilling**

**Category**

**Spacing**

**m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

–

–

–

–

–

–

Indicated

20 x 40,

X

X

25 x 25,

50 x 25

–

–

–

Based on a drill spacing study , Mineral Resource classification was changed from 25 x 25 to 50 x 25

Inferred

20 x 40,

X

X

50 x 25,

50 x 50

–

–

–

–

Grade/Ore

control

5 x 10,

5 x 12,

10 x 5,

10 x 10

–

X



—  
 —  
 —  
 —  
*Inclusive Mineral Resource*

**Siguiri**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**

**Category**  
**million**

**g/t**  
**Tonnes**

**Moz**  
*Bidini sulphide*  
 Measured

—  
 —  
 —  
 —

Indicated

0.20

1.53

0.31

0.01

Inferred

6.71

1.51

10.14

0.33

Total

6.91

1.51

10.44

0.34

*Bidini oxide*

Measured

—

—

—

—

Indicated

1.95

0.75

1.47

0.05

Inferred

5.57

0.76

4.22

0.14

Total

7.52

0.76

5.69

0.18

*Bidini transitional*

Measured

—

—

—

—

Indicated

2.20

1.23

2.71

0.09

Inferred

3.59

1.12

4.04

0.13

Total

5.79

1.16

6.75

0.22

*Eureka east*

Measured

—

—

—

—

Indicated

1.83

1.06

1.93

0.06

Inferred

0.31

0.78

0.24

0.01

Total

2.14

1.02

2.17

0.07

*Kalamagna*

Measured

—

—  
—  
—

Indicated

3.97  
0.70  
2.79  
0.09

Inferred

0.74  
0.72  
0.53  
0.02

Total

4.71  
0.70  
3.32  
0.11

*Kami sulphide*

Measured

—  
—  
—  
—

Indicated

21.07  
1.05  
22.06  
0.71

Inferred

8.24  
0.93  
7.69  
0.25

Total

29.31  
1.01  
29.74  
0.96

CONTINENTAL AFRICA

continued

Siguiri

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**86**

*Inclusive Mineral Resource*

**Signiri**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Kami oxide*

Measured

–

–

–

–

Indicated

11.57

0.63

7.25

0.23

Inferred

0.69

0.76

0.52

0.02

Total

12.25

0.63

7.77

0.25

*Kami transitional*

Measured

–

–

–

–

Indicated

2.68

0.90

2.42

0.08

Inferred

0.18

0.84

0.15

0.00

Total

2.86

0.90

2.57  
0.08  
*Kosise*  
Measured

—  
—  
—  
—

Indicated  
2.02  
0.76  
1.53  
0.05

Inferred  
2.39  
0.72  
1.73  
0.06

Total  
4.40  
0.74  
3.25  
0.10

*Kozan north*  
Measured

—  
—  
—  
—

Indicated  
8.65  
0.72  
6.18  
0.20

Inferred  
0.59  
0.72  
0.43  
0.01

Total  
9.23  
0.72  
6.61  
0.21

*Kozan south*  
Measured

—  
—  
—  
—

Indicated

6.76  
0.72  
4.89  
0.16  
Inferred  
0.03  
0.66  
0.02  
0.00  
Total  
6.78  
0.72  
4.90  
0.16  
*Seguelén*  
Measured  
—  
—  
—  
—  
Indicated  
15.52  
1.01  
15.75  
0.51  
Inferred  
4.11  
0.96  
3.94  
0.13  
Total  
19.64  
1.00  
19.68  
0.63  
*Sokunu*  
Measured  
—  
—  
—  
—  
Indicated  
3.82  
0.86  
3.28  
0.11  
Inferred  
3.77  
1.01  
3.82  
0.12

Total

7.59

0.93

7.10

0.23

*Soloni*

Measured

—

—

—

—

Indicated

4.84

0.78

3.76

0.12

Inferred

2.02

0.78

1.59

0.05

Total

6.87

0.78

5.34

0.17

*Sorofo sulphide*

Measured

—

—

—

—

Indicated

—

—

—

—

Inferred

2.33

1.14

2.66

0.09

Total

2.33

1.14

2.66

0.09

*Sorofo oxide*

Measured

—

—

—  
—  
Indicated  
2.94  
0.80  
2.36  
0.08  
Inferred  
2.49  
1.14  
2.83  
0.09  
Total  
5.42  
0.96  
5.19  
0.17  
*Sorofo transitional*  
Measured  
—  
—  
—  
—  
Indicated  
1.27  
1.09  
1.39  
0.04  
Inferred  
0.21  
1.40  
0.30  
0.01  
Total  
1.48  
1.14  
1.68  
0.05  
CONTINENTAL AFRICA  
**87**



*Inclusive Mineral Resource*

**Signiri**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Kounkoun*

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

15.38

1.28

19.65

0.63

Total

15.38

1.28

19.65

0.63

*Sintroko south*

Measured

–

–

–

–

Indicated

1.97

1.42

2.79

0.09

Inferred

0.27

2.07

0.57

0.02

Total

2.25

1.50

3.36

0.11

*Foulata*

Measured

—

—

—

—

Indicated

—

—

—

—

Inferred

1.92

1.64

3.13

0.10

Total

1.92

1.64

3.13

0.10

*Stockpile (marginal ore)*

Measured

19.53

0.50

9.69

0.31

Indicated

—

—

—

—

Inferred

—

—

—

—

Total

19.53

0.50

9.69

0.31

*Stockpile (full grade ore)*

Measured

5.49

1.00

5.47

0.18

Indicated

–  
 –  
 –  
 –  
 Inferred  
 –  
 –  
 –  
 –  
 Total  
 5.49  
 1.00  
 5.47  
 0.18  
*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  
 Sigiri  
 Total  
 225.17  
 0.85  
 191.06  
 6.14  
*Exclusive Mineral Resource*  
**Sigiri**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**  
**Category**  
**million**  
**g/t**  
**Tonnes**

**Moz**  
Measured

—  
—  
—  
—

Indicated  
54.22

0.82  
44.19  
1.42

Inferred  
74.94

1.01  
75.79  
2.44

Total  
129.16

0.93  
119.98  
3.86

The Exclusive Mineral Resource at Siguiri includes:

•

Indicated Mineral Resource that is economic at the Mineral Resource gold price of US\$1,600/oz, but not at the Ore Reserve price.

This material forms 45% of the Exclusive Mineral Resource.

•

Inferred Mineral Resource not included in the current pit designs. Selected parts of these areas will be included in infill drilling

programmes during 2015 and 2016 to meet life of mine planning requirements. This Inferred Mineral Resource forms 52% of the

Exclusive Mineral Resource.

•

Inferred Mineral Resource located within the Ore Reserve optimised pit shell. This material forms 3% of the Exclusive Mineral Resource.

There are portions of Indicated Mineral Resource associated with all the major pits as a result of the material being sub-economic

under current Ore Reserve optimisation conditions. The Inferred Mineral Resource material associated with the Exclusive Mineral

Resource is not currently supported by sufficient geological information to be classified as Indicated Mineral Resource or Measured

Mineral Resource and is therefore not incorporated in the Ore Reserve.

CONTINENTAL AFRICA

continued

Siguiri

MINERAL RESOURCE AND ORE RESERVE REPORT

2014

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ORE RESERVE

*Ore Reserve*

**Siguiri**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Eureka east*

Proved

–

–

–

–

Probable

1.19

0.95

1.14

0.04

Total

1.19

0.95

1.14

0.04

*Kami sulphide*

Proved

–

–

–

–

Probable

12.03

1.12

13.43

0.43

Total

12.03

1.12

13.43

0.43

*Kami oxide*

Proved

–

–

–

–

Probable

2.05  
0.83  
1.70  
0.05  
Total  
2.05  
0.83  
1.70  
0.05  
*Kami transitional*  
Proved  
—  
—  
—  
—  
Probable  
1.57  
0.98  
1.53  
0.05  
Total  
1.57  
0.98  
1.53  
0.05  
*Kozan north*  
Proved  
—  
—  
—  
—  
Probable  
1.61  
0.67  
1.08  
0.03  
Total  
1.61  
0.67  
1.08  
0.03  
*Kozan south*  
Proved  
—  
—  
—  
—  
Probable  
2.44  
0.73  
1.79

0.06  
Total  
2.44  
0.73  
1.79  
0.06  
*Seguelén*  
Proved  
—  
—  
—  
—  
Probable  
12.69  
0.99  
12.52  
0.40  
Total  
12.69  
0.99  
12.52  
0.40  
*Sokunu*  
Proved  
—  
—  
—  
—  
Probable  
0.57  
0.81  
0.46  
0.01  
Total  
0.57  
0.81  
0.46  
0.01  
*Soloni*  
Proved  
—  
—  
—  
—  
Probable  
2.94  
0.79  
2.34  
0.08  
Total  
2.94

0.79  
 2.34  
 0.08  
*Sorofo oxide*  
 Proved  
 -  
 -  
 -  
 -  
 Probable  
 1.02  
 0.99  
 1.01  
 0.03  
 Total  
 1.02  
 0.99  
 1.01  
 0.03  
*Stockpile (marginal ore)*  
 Proved  
 19.53  
 0.50  
 9.69  
 0.31  
 Probable  
 -  
 -  
 -  
 -  
 Total  
 19.53  
 0.50  
 9.69  
 0.31  
 4.93  
 -0.28  
 0.00  
 -0.26  
 1.59  
 0.00  
 0.17  
 0.00  
 6.14  
 Ounces  
 (millions)  
 6.2  
 6.0  
 5.8  
 5.6  
 5.4



5.2  
 5.0  
 4.8  
 4.6  
 4.4  
 4.2  
 4.0

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2013  
 Deple-  
 tion  
 Gold  
 price  
 Cost  
 Explo-  
 ration  
 Metho-  
 dology  
 Other  
 Acquisition/  
 disposal  
 2014

**Siguiri**

Mineral Resource reconciliation: 2013 – 2014

1.84  
 -0.20  
 -0.05  
 0.07  
 0.54  
 0.02  
 0.02  
 0.00  
 2.23  
 Ounces  
 (millions)  
 2.3  
 2.2  
 2.1  
 2.0  
 1.9  
 1.8

1.7  
1.6  
1.5  
1.4

–  
–  
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–  
–  
–

2013

Other

2014

**Signiri**

Deple-

tion

Model

change

Economics

New

ounces

from

Projects

Scope

Change

Acquisition/

Disposal

Ore Reserve reconciliation: 2013 – 2014

CONTINENTAL AFRICA

**89**

*Ore Reserve*

**Siguiri**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Stockpile (full grade ore)*

Proved

5.49

1.00

5.47

0.18

Probable

–

–

–

–

Total

5.49

1.00

5.47

0.18

*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

95.09

0.73

69.44

2.23

*Ore Reserve modifying factors*

**Siguiri**

**Gold**  
**price**  
**Cut-off**  
**grade**  
**Dilution**  
**Dilution**  
**% MRF**  
**% MRF**  
**MCF**  
**MetRF**  
**31 December 2014**  
**US\$/oz**  
**g/t Au**  
**%**  
**g/t**  
**(based on**  
**tonnes)**  
**(based on**  
**g/t)**  
**%**  
**%**  
 Eureka east  
 1,100  
 0.58  
 19.0  
 0.25  
 82.0  
 87.8  
 100.0  
 90.0\*\*  
 Kami sulphide  
 1,100  
 0.60  
 5.0  
 –  
 95.0  
 95.0  
 100.0  
 88.7\*  
 Kami oxide  
 1,100  
 0.55  
 5.0  
 –  
 95.0  
 95.0  
 100.0  
 93.1\*  
 Kami transitional  
 1,100  
 0.55

5.0  
 —  
 95.0  
 95.0  
 100.0  
 87.8\*  
 Kozan north  
 1,100  
 0.58  
 10.0  
 0.30  
 90.1  
 91.5  
 100.0  
 90.0\*\*  
 Kozan south  
 1,100  
 0.58  
 5.0  
 0.33  
 93.1  
 93.4  
 100.0  
 90.0\*\*  
 Seguélién  
 1,100  
 0.61  
 4.0  
 0.40  
 97.1  
 96.9  
 100.0  
 90.0\*\*  
 Sokunu  
 1,100  
 0.62  
 18.0  
 0.38  
 97.1  
 97.6  
 100.0  
 90.0\*\*  
 Soloni  
 1,100  
 0.58  
 6.0  
 0.31  
 75.1  
 74.8  
 100.0  
 90.0\*\*

Sorofe oxide  
 1,100  
 0.58  
 11.0  
 0.25  
 93.9  
 93.9  
 100.0  
 90.0\*\*  
 Stockpile (full grade ore)  
 1,100  
 0.58  
 –  
 –  
 100.0  
 100.0  
 100.0  
 90.0\*\*\*  
 Stockpile (marginal ore)  
 1,100  
 0.42  
 –  
 –  
 100.0  
 100.0  
 100.0  
 88.0  
 Stockpile (spent heap leach)  
 1,100  
 0.42  
 –  
 –  
 100.0  
 100.0  
 100.0  
 90.0

\* *Factors based on pre-feasibility study*

\*\*\*

*Oxide Ore = 90.0%, Transitional Ore = 75.0%*

*\*\* Marginal Ore = 80.0%, Transitional Ore = 55.0%*

*Inferred Mineral Resource in business plan*

**Signiri**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Eureka east

0.12

0.53

0.07

0.00

5%

Within the indicated pits design

Kami sulphide

0.55

1.04

0.57

0.02

4%

Kami oxide

0.01

0.71

0.01

0.00

0.6%

Kozan north

0.02

0.80

0.01

0.00

1%

Seguélen

2.67

0.98

2.62

0.08

21%

Sokunu

0.01

0.57

0.00

0.00

1%

Soloni

0.28

0.73

0.21

0.01

8%

Sorofe oxide

0.97

1.27

1.23

0.04

55%

Total

4.64

1.02

4.72

0.15

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

is not a significant portion and only represents 7.8% of the ounces in the business plan. The major contributors of Inferred Mineral

Resource material within the business plan are Seguélen and Tubani (Sorofe).

CONTINENTAL AFRICA

continued

Siguiri

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**90**



COMPETENT PERSONS

**Signiri**

**Category**

**Competent person**

**Professional  
organisation**

**Membership  
number**

**Relevant  
experience**

**Qualification**

Mineral Resource

Craig Duvel

SACNASP

400007/98

20 years

BSc Hons (Geology)

GDE (Mining Engineering)

Ore Reserve

Desiderius Kamugisha

MAusIMM

227 181

13 years

BSc (Mining Engineering)

0.0

0.4

0.3

0.2

0.1

0.9

0.8

0.6

0.5

0.7

1.0 1.1

1.4 1.5

1.2 1.3

Tonnes

above

cut-off

(millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

2.2

2.0

1.8

1.6



CONTINENTAL AFRICA

continued

Mali

0

500km

Operations

**MALI**

Tombouctou

Gao

Morila

Sadiola

Yatela

(1)

Sgou

Nioro

Bamako

Sikasso

Kayes

**COUNTRY OVERVIEW**

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

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

Morila. Yatela is currently in closure mode and no Mineral Resource or Ore Reserve have been reported. The treatment schedule for

2015 will comprise of final flushing of tailing material that is currently in the circuit and stripping of the top layer of ROM pad material

where some historical seepage and spillage is expected to have concentrated gold.

**MINERAL RESOURCE ESTIMATION**

The Mineral Resource is taken as the material that falls within the \$1,600/oz economic shell optimised for each individual deposit. A

3D surface is generated to create the outline of the geological model within which grades are estimated. Block sizes are between 25m

x 25m x 10m and 30m x 30m x 10m (X Y Z) and where appropriate, selective sub-celling is used for definition on the geological and

mineralisation boundaries. All the deposits are estimated by Ordinary Kriging. Where deemed appropriate, a geostatistical technique

called Uniform Conditioning (UC) is used to estimate the proportion of material that occurs above the cut-off, hence forming a

recoverable Mineral Resource model at a specific selective mining unit (SMU).

**ORE RESERVE ESTIMATION**

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

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

geotechnical parameters are applied to generate the mine designs that are used to estimate the final Ore Reserve.

(1)

*Yatela mine ceased mining in 2014 and is preparing for mine closure.*

**MINERAL RESOURCE AND ORE RESERVE REPORT**

**2014**

**92**

CONTINENTAL AFRICA

**93**

CONTINENTAL AFRICA

continued

Morila

INTRODUCTION

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 (40%), AngloGold Ashanti (40%) and the Government of Mali (20%).

Randgold took over

the operation of Morila mine from AngloGold Ashanti in February 2008.

Mining of the Morila main pit was re-investigated during 2012 and early 2013 and, due to improved economics, a further pushback

was planned (Pit4S). The mining of the main pit will be complemented by re-handling and processing the existing marginal ore,

mineralised waste stockpiles and tailings. The current life of mine plan extends up to the end of 2017.

GEOLOGY

The Morila deposit occurs within a sequence of amphibolite facies Birimian metasediments. The economic mineralisation is located

in these metasediments within a broad north-northwest trending corridor of shearing. This shear zone has near-vertical and flat-lying

components and is interpreted as being a second-order shear off the main Banafin shear, approximately 25km to the east. The

Doubalakoro granite pluton borders the metasediments to the west and the Massigui granites lie to the east. Gold mineralisation is

associated with silica-feldspar alteration and the sulphide minerals arsenopyrite, pyrrhotite, and pyrite (with minor chalcopyrite).

Mining in the Southern pushback progressed well during 2014 and is expected to be completed by March 2015. An exploration

generative team (from Randgold) is currently reviewing the geological model at Morila mine and surrounding areas to look for further

potential new orebodies.

MINERAL RESOURCE

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

**Morila**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

10 x 10

X

X

–

–

–

–

Indicated

30 x 30

X

X

–

–

–

Inferred

60 x 60

X

X

–

–

–

Grade/Ore control 10 x 10

–

X

X

–

–

–

*Inclusive Mineral Resource*

**Morila**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Main pit*

Measured

–

–

–

–

Indicated

0.20

2.93

0.59

0.02

Inferred

0.06

3.62

0.22

0.01

Total

0.26

3.09  
 0.81  
 0.03  
*Stockpile (mineralised waste)*  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 –  
 –  
 –  
 –  
 Inferred  
 0.58  
 0.79  
 0.45  
 0.01  
 Total  
 0.58  
 0.79  
 0.45  
 0.01  
*Tailings storage facilities*  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 5.46  
 0.51  
 2.80  
 0.09  
 Inferred  
 3.87  
 0.50  
 1.93  
 0.06  
 Total  
 9.34  
 0.51  
 4.73  
 0.15  
 Morila  
 Total  
 10.18  
 0.59  
 6.00  
 0.19

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**94**



*Exclusive Mineral Resource*

**Morila**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

–

–

–

–

Indicated

0.74

0.38

0.28

0.01

Inferred

4.51

0.58

2.60

0.08

Total

5.25

0.55

2.89

0.09

The exclusive Mineral Resource comprise largely of Inferred Mineral Resource from the main pit, tailings storage facility and mineralised

waste stockpiles.

ORE RESERVE

*Ore Reserve*

**Morila**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Main pit*

Proved

–

–

–

—  
 Probable  
 0.20  
 2.93  
 0.59  
 0.02  
 Total  
 0.20  
 2.93  
 0.59  
 0.02

*Tailings storage facilities*

Proved

—  
 —  
 —  
 —

Probable

4.72  
 0.53  
 2.52  
 0.08

Total

4.72  
 0.53  
 2.52  
 0.08

Morila

Total

4.92  
 0.63  
 3.11  
 0.10

*Ore Reserve modifying factors*

**Morila**

**Gold price Cut-off grade**

**Dilution**

**% MRF**

**MCF**

**MetRF**

**31 December 2014**

**US\$/oz**

**g/t Au**

**%**

**(based on**

**tonnes) %**

**%**

Main pit

1,000  
 0.87  
 10.0

95.0  
 100.0  
 91.0  
 Tailings storage facilities  
 1,000  
 0.50  
 5.0  
 100.0  
 100.0  
 57.0  
*\$1,000/oz Ore Reserve price used by Randgold Resources Limited (operating partner).*  
 0.23  
 -0.07  
 0.00  
 0.00  
 0.00  
 0.01  
 0.02  
 0.00  
 0.19  
 Ounces  
 (millions)  
 0.24  
 0.23  
 0.22  
 0.21  
 0.20  
 0.19  
 0.18  
 0.17  
 0.16  
 0.15  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 2013  
 Deple-  
 tion  
 Gold  
 price  
 Cost  
 Explo-  
 ration  
 Metho-  
 dology

Other  
Acquisition/  
disposal  
2014

**Morila**

Mineral Resource reconciliation: 2013 – 2014

0.04  
0.09  
-0.05  
0.00  
0.00  
-0.00  
0.02  
0.00  
0.10  
Ounces  
(millions)  
0.10  
0.12  
0.10  
0.08  
0.06  
0.04  
0.02  
0.00

–  
–  
–  
–  
–  
–  
–

2013  
Other  
2014

**Morila**

Ore Reserve reconciliation: 2013 – 2014

Model  
change  
Deple-  
tion  
Change in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Acquisition/  
disposal

CONTINENTAL AFRICA

**95**



cut-off

(g/t)

Cut-off grade (g/t)

4.6

4.4

4.2

4.0

3.8

3.6

3.4

3.2

0.24

0.22

0.20

0.18

0.16

0.14

0.12

0.10

Tonnes above cut-off

Ave grade above cut-off

**Morila**

Grade tonnage curve – Surface (metric)

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**96**

## CONTINENTAL AFRICA

continued

Sadiola

### INTRODUCTION

Sadiola is situated in western Mali, 77km to the south of the regional capital of Kayes and about 440km north-west of the capital city

of Bamako. The mine is 41% owned by AngloGold Ashanti, 41% by IAMGOLD Corporation and 18% by the Republic of Mali.

The mine has been in production and operated by AngloGold Ashanti since 1996. Current operations are focused on the mining of

oxide material from the FE4 and Tambali pits. Mining from the Sadiola main pit has stopped as the oxide Ore Reserve is depleted

although this pit remains a key project in the extension of the life of mine plan with the Sadiola Sulphide Project (SSP) awaiting

board approval.

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

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

the blends currently undergoes preconditioning through primary crushers.

The SSP aims to mine the underlying sulphide material in the Sadiola main pit and modify the existing oxide plant to process the

sulphide ore. The modified plant will treat both sulphide stockpiles and the run-of-mine sulphide material. This project will extend the

life of Sadiola and leverage any further sulphide exploration successes in the region.

### GEOLOGY

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

Birimian window along the 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 terrane boundary. Regional metamorphism is of greenschist facies

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

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

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

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

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

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

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

the SSP.

The primary source of the oxide ore currently comes from two satellite areas. The FE3/FE4 complex is located approximately six

kilometres south-east of the Sadiola mine and processing plant while the new Tambali Pit is two kilometres south-west of the plant.

Mineralisation at the FE3 deposit is hosted in marbles adjacent to the upper contact with carbon-rich pelites. Gold is associated with



northeast-east-striking faults and lens-shaped breccia zones that are broadly parallel to the north-west-trending stratigraphy. The FE4 deposit is located in an interbedded sandstone and pelite sequence with mineralisation predominantly hosted in breccia along a north-east-striking regional shear and several subsidiary north-northeast-trending faults. At Tambali the mineralisation is associated with two sets of structures, orientated north-northeasterly (dipping steeply south-east) and north-westerly (dipping south-west). These structures are often related to thin tourmaline-quartz-rich shears/veins or zones of (mostly north-northeast trending) quartz-feldspar porphyry intrusions that have undergone later shearing. A north-west trending graphite-rich brecciated boundary between south-westerly-dipping sandstones (in the east) and metapelites (in the west) is also evident. Bedding parallel shearing is also indicated in some areas, possibly accounting for some of the westerly-dipping mineralised structures.

CONTINENTAL AFRICA

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## CONTINENTAL AFRICA

continued

Sadiola

### EXPLORATION

The main objective of the 2014 exploration programme was to investigate eight new oxide targets within the mining lease and to test the sulphide potential below the current oxide satellite pits. The oxide targets were selected using a minerals system approach in conjunction with the University of Western Australia's Centre for Exploration Targeting (CET). The CET research produced comprehensive reports on the structural controls on the genesis, geometry and location of the Sadiola gold system. The results enhance exploration targeting for oxides and sulphides. The CET project is expected to be completed in early 2015. Of the eight oxide targets the best results came from the FE2 south area. The target is located along the FE trend, north of the FE3 open pit (mined out) and south of the FE2 deposit. The mineralisation was traced over a 1.2 kilometre strike, but the drilling results show that the grades are generally low (<1g/t) and the higher grade zones of the deposit tend to be spotty. Further work is required to better establish the continuity of the higher grade zones.

Exploration work on the sulphide potential of the concession focused on the areas below the existing oxide satellite pits. Conceptual models of the mineralisation continuity and controls in the fresh-rock were generated in conjunction with the CET following a review of drilling data and mapping in the pits. Economic studies of the conceptual models showed potential for sulphide ore in the FE3, FE4 and Tambali satellite pits. Limited RC was carried out in FE3 and FE4 to confirm the mineralisation controls and establish the grade and tenor of the fresh-rock mineralisation. Encouraging drilling results were achieved which require follow-up drilling.

Exploration work continued during the year on the S2 exploration permit which is adjacent to the Sadiola mining concession boundary.

This work included termite mound sampling and geological mapping. Drilling was completed on two fence lines but the results were disappointing.

Although oxide exploration has reached maturity at Sadiola research work will continue to investigate further potential and a shift to sulphide exploration will follow depending on the future of the SSP.

### PROJECTS

The SSP remains the only major AngloGold Ashanti project in Mali and is the focus for extension of the life of mine plan. The project is being re-evaluated and optimised in light of the lower gold price.

### MINERAL RESOURCE

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

#### **Sadiola**

#### **Type of drilling**

#### **Category**

#### **Spacing m (-x-)**

#### **Diamond**

#### **RC**

#### **Blasthole**

**Channel**  
**Other**  
**Comments**

Measured

25 x 25

X

X

-

-

-

-

Indicated

25 x 25,

X

X

50 x 25

-

-

-

-

Inferred

50 x 50

X

X

-

-

-

-

Grade/Ore control 5 x 10

-

-

-

-

-

-

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**98**

CONTINENTAL AFRICA

*Inclusive Mineral Resource*

**Sadiola**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*FE2*

Measured

–

–

–

–

Indicated

0.55

1.80

0.99

0.03

Inferred

0.02

1.67

0.04

0.00

Total

0.57

1.79

1.03

0.03

*FE3*

Measured

–

–

–

–

Indicated

0.59

2.69

1.60

0.05

Inferred

0.01

2.98

0.02

0.00

Total

0.60

2.69

1.62

0.05

*FE4*

Measured

—

—

—

—

Indicated

0.07

2.34

0.17

0.01

Inferred

0.01

2.64

0.03

0.00

Total

0.09

2.38

0.20

0.01

*FN2*

Measured

—

—

—

—

Indicated

0.11

1.45

0.16

0.01

Inferred

—

—

—

—

Total

0.11

1.45

0.16

0.01

*FN3*

Measured

—

—

—

—

Indicated

0.60

1.78

1.07

0.03

Inferred

0.09

2.23

0.20

0.01

Total

0.69

1.84

1.27

0.04

*Total stockpiles*

Measured

5.32

0.77

4.09

0.13

Indicated

1.60

2.00

3.21

0.10

Inferred

—

—

—

—

Total

6.92

1.05

7.29

0.23

*Tabakoto (Sekokoto)*

Measured

—

—

—

—

Indicated

0.14

1.94

0.27

0.01

Inferred

0.07

1.68

0.11

0.00  
Total  
0.21  
1.86  
0.38  
0.01  
*Tambali*  
Measured  
—  
—  
—  
—  
Indicated  
0.07  
1.63  
0.11  
0.00  
Inferred  
0.03  
1.45  
0.05  
0.00  
Total  
0.10  
1.57  
0.16  
0.01  
*SSP (oxides)*  
Measured  
—  
—  
—  
—  
Indicated  
1.39  
1.52  
2.11  
0.07  
Inferred  
0.07  
1.54  
0.11  
0.00  
Total  
1.46  
1.52  
2.22  
0.07  
*SSP (transitional)*  
Measured  
—

—  
—  
—  
Indicated  
1.12  
1.92  
2.16  
0.07  
Inferred  
0.11  
1.86  
0.20  
0.01  
Total  
1.23  
1.92  
2.36  
0.08  
*SSP (sulphides)*  
Measured

—  
—  
—  
—

Indicated  
35.63  
1.91  
68.18  
2.19  
Inferred  
1.85  
1.59  
2.94  
0.09  
Total  
37.48  
1.90  
71.13  
2.29  
Sadiola  
Total  
49.46  
1.78  
87.83  
2.82  
**99**



CONTINENTAL AFRICA

continued

Sadiola

*Exclusive Mineral Resource*

**Sadiola**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

5.16

0.73

3.79

0.12

Indicated

18.43

1.69

31.23

1.00

Inferred

2.26

1.64

3.72

0.12

Total

25.86

1.50

38.73

1.25

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

For the Sadiola

pits the Exclusive Mineral Resource is defined as follows:

- the Mineral Resource that is outside the current Ore Reserve designs but inside the Mineral Resource shells;

- the Inferred Mineral Resource; and

- material below the Ore Reserve cut-off grade and above the Mineral Resource cut-off grade.

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

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

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

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

The Exclusive Mineral Resource includes FN2, FN3, FE2, Tambali, FE3, FE4 and Sekokoto which forms part of the Mineral Resource but are not reported as Ore Reserve.

3.10  
 -0.09  
 0.00  
 -0.19  
 0.03  
 -0.03  
 0.01  
 0.00  
 2.82  
 Ounces  
 (millions)  
 3.10  
 3.05  
 3.00  
 2.95  
 2.90  
 2.85  
 2.80  
 2.75

—  
 —  
 —  
 —  
 —  
 —  
 —  
 —  
 2013  
 Depletion  
 Gold price  
 Cost  
 Exploration  
 Methodology  
 Other  
 Acquisition/  
 disposal

2014  
**Sadiola**  
 Mineral Resource reconciliation: 2013 – 2014  
 1.43  
 -0.09  
 -0.08  
 0.27  
 0.00  
 -0.04

0.09  
0.00  
1.57  
Ounces  
(millions)  
1.60  
1.55  
1.50  
1.45  
1.40  
1.35  
1.30  
1.25  
1.20

–  
–  
–  
–  
–  
–  
–  
–  
–

2013

Other

2014

**Sadiola**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
tion

Model  
change

Change in  
economics

New  
ounces  
from

projects

Scope  
change

Acquisition/  
disposal

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**100**

CONTINENTAL AFRICA

ORE RESERVE

*Ore Reserve*

**Sadiola**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Total stockpiles*

Proved

–

–

–

–

Probable

1.70

2.00

3.39

0.11

Total

1.70

2.00

3.39

0.11

*SSP (oxides)*

Proved

–

–

–

–

Probable

0.57

1.78

1.02

0.03

Total

0.57

1.78

1.02

0.03

*SSP (transitional)*

Proved

–

–

–

–

Probable

0.62

2.35

1.46

0.05

Total

0.62

2.35

1.46

0.05

*SSP (sulphides)*

Proved

—

—

—

—

Probable

20.66

2.09

43.12

1.39

Total

20.66

2.09

43.12

1.39

Sadiola

Total

23.55

2.08

48.98

1.57

**101**

*Ore Reserve modifying factors*

**Sadiola**

**Gold price**

**Cut-off**

**grade**

**MCF**

**MetRF**

**31 December 2014**

**US\$/oz**

**g/t Au**

**%**

**%**

SSP (oxides)

1,100

0.85\*

100.0

96.0\*\*\*

SSP (sulphides)

1,100

1.10\*\*

100.0

76.0

#

SSP (transitional)

1,100

1.10

100.0

75.0

\* *Laterite 0.85g/t, Saprolite 0.85g/t, Siliceous Oxide 0.95g/t, Intermediate Oxide 1.10g/t*

\*\* *Saprolitic Sulphide 1.00g/t, Hard Sulphide 1.10g/t, Intermediate Sulphide 1.10g/t*

\*\*\* *Recovery: Laterite 96%, Saprolite and Siliceous Oxide 85%*

#

*Saprolitic Sulphide 80%, Hard Sulphide and Intermediate Sulphide 76%*

*Ore loss and dilution is taken into account as part of the modelling process.*

*Inferred Mineral Resource in business plan*

**Sadiola**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

SSP (oxides)

0.02

1.74

0.03

0.00

3.7% of total material from the pit

SSP (transitional)

0.04

2.13

0.10

0.00

5.6% of total material from the pit

SSP (sulphides)

0.89

1.66

1.48

0.05

4.1% of total material from the pit

Total

0.95

1.68

1.60

0.05

The plant feed of the final life of mine pit designs includes Inferred Mineral Resource which has been included in the final schedule.

The tonnage of the Inferred Mineral Resource included in the life of mine is less than five percent of the total life of mine ore tonnage.

#### COMPETENT PERSONS

##### **Sadiola**

##### **Category**

##### **Competent person**

##### **Professional**

##### **organisation**

##### **Membership**

##### **number**

##### **Relevant**

##### **experience**

##### **Qualification**

Mineral Resource

Geoffrey H. Gushee

MAusIMM

207 957

26 years

BA (Geology)

GDE (Mining Engineering)

MEng (Mineral Resource

Management)

Ore Reserve

Andrew Bridges

MAusIMM

300 976

17 years

BSc (Hons) Mining Engineering

#### CONTINENTAL AFRICA

continued

Sadiola

0.0

0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5

0.1 0.2

Tonnes

above

cut-off

(millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

3.0

2.5

2.0

1.5

1.0

0.5

0.0

180

160

140

120

100

80

60

40

20

0

Tonnes above cut-off

Ave grade above cut-off

**Sadiola**

Grade tonnage curve – Surface (metric)

–

–

–

–

–

–

–

–

–

–

–

–

–

–

MINERAL RESOURCE AND ORE RESERVE REPORT

2014

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CONTINENTAL AFRICA

Operations

0

800km

Lake

Victoria

**TANZANIA**

Arusha

Geita

Mwanza

Tabora

Tanga

Dodoma

Dar-es-Salaam

Kigoma

Lake

Tanganyika

COUNTRY OVERVIEW

Geita is one of the larger open pit mines in Africa. Prior to April 2004, Geita was managed under a joint-venture agreement between

Ashanti and AngloGold. Since the merger of the two companies, Geita is a wholly-owned subsidiary of AngloGold Ashanti.

MINERAL RESOURCE ESTIMATION

The mineralisation boundaries for the individual deposits are defined from the detailed logging of all geological drill-holes. This

information is validated and then used to create a 3D model. The geological model is subsequently populated with an appropriately

dimensioned block model. Ordinary Kriging is used to interpolate values into the blocks. A geostatistical technique called UC is used to

estimate the proportion of ore that occurs above the Mineral Resource cut-off and this is then reported assuming a specified selective

mining unit (SMU). The Mineral Resource is reported within a \$1,600/oz optimised pit shell and above the calculated mineralised waste

cut-off grade per pit. Stockpiled material above mineralised waste cut-off grade is included in the Mineral Resource.

ORE RESERVE ESTIMATION

The Mineral Resource models are used as the basis for Ore Reserve estimation. Modifying factors include the input gold Ore Reserve

price, mining dilution and recovery, geotechnical, stay in business capital, operating costs, metallurgical recovery, processing capacity,

and mining equipment capacities. Appropriate Ore Reserve cut-off grades are applied and optimised pit shells are generated. Pit

designs are then done on selected shells upon which mine scheduling is done. An Ore Reserve gold price of US\$1,100/oz was used.

CONTINENTAL AFRICA

continued

Tanzania

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CONTINENTAL AFRICA

continued

Geita

INTRODUCTION

The Geita Gold mine (GGM) is located approximately 910km from Dar es Salaam in the Lake Zone of northern Tanzania, with the mine lease situated within the Archaean Sukumaland Greenstone Belt of the Lake Victoria goldfields. The mining licence (SML45/99) covers approximately 196km

2

while the other prospecting licences cover about 120km

2

. Other gold mines hosted in these greenstone belts include Golden Pride, Bulyanhulu, Tulawaka, Buzwagi and North Mara. The geological setting is considered to be one of the world's

most-productive Archaean Greenstone belts.

Mining at Geita is currently undertaken by conventional truck-and-shovel open pit mining method on two active pits (Nyankanga and

Geita Hill, with the open pit portion of Star and Comet being completed in the 1st quarter of 2014). However, some underground

mining potential exists and early-stage studies are underway.

GEOLOGY

The Geita Greenstone belt forms part of the Archaean Sukumaland, which strikes east-west, is 60km in length and up to 15km

wide. The Geita terrain is comprised of upper- to mid-Nyanzian greenschist facies units, made up of clastic sediments, black shales,

banded iron formation and volcanoclastics. These have been intruded by a variety of felsic to mafic intrusive bodies, dykes and sills.

Supracrustal rocks of variable thickness are locally estimated to be at least 500m thick and are generally underlain by intrusive

complexes.

Within GGM tenure, the north-west trending deformation corridors divide the Geita Greenstone Trend into three distinct sub-terrains,

namely Nyamulilima Terrain in the west (hosting the Star & Comet, Ridge 8 and Roberts deposits), Geita terrain in the central part

(hosting the Nyankanga, Geita Hill, Lone Cone and Chipaka deposits) and Kukuluma terrain to the 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

Nyamulilima and 6% in Kukuluma terrain.

Like other greenstone sequences the Geita Greenstone Belt has been through a protracted history of deformation, which resulted in

a property-scale, multiphase, box-shaped synformal configuration, with 'limbs' trending west-northwest and dipping mostly steeply,

connected by a north-east trending 'hinge zone' dipping moderately to north-west. This large-scale architecture conceals both prior-

and post-deformation events, either as older folding systems, or younger shear arrays developing sub-parallel to the spatial position

of rock packages along its 'hinge and limb' zones. The Geita terrain comprises mostly the north-easterly 'hinge' zone. To the west,

the Nyamulilima terrain is mostly underlain by a semi-circular structure surrounding intrusive centers, and internally encompasses fold and fault systems of variable scale which may locally control gold mineralisation. The Kukuluma terrain, to the north-east, trends also west-northwesterly, with sub-vertical limbs being dominant over compressed, multiphase hinge zones. Regional north-northeasterly structures hosting Proterozoic gabbro dykes are also prominent geological features in the area.

#### EXPLORATION

Drilling in 2014 concentrated on infill programmes in active open pits, with respective campaigns designed to increase confidence in

the Mineral Resource, therefore allowing for their conversion to Ore Reserve. Infill drilling programmes were executed for Nyankanga

Cut 8, Star & Comet Cut 2/3 gap, Geita Hill West and Geita Hill East. Limited Mineral Resource delineation drilling was undertaken in

2014 due to budget constraints, limited to testing the potential dip extensions of Star & Comet deposit.

Significant progress was made in understanding the geological setting and controls of gold mineralisation at Nyankanga, Geita Hill,

Star & Comet, Ridge 8 and Kukuluma-Matandani deposits. Geological mapping and modeling of the known deposits progressed well

in 2014, with 3-D models built for Star & Comet, Ridge 8, Kukuluma and Matandani.

During the first quarter of 2014 a new mineral licence Kibugwe West PL9558/2014 was granted to GGM.

Data interpretation from Nyamulilima terrain was conducted with regional geological field mapping, focus was on the north-western

area where the Selous, Mabe and Xanadu exploration targets are located.

#### MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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**PROJECTS**

GGM’s exploration strategy includes three major projects, namely Geita Underground, Refractory Ore and Satellite Deposits. Geita Underground Project concerns the potential depth extension of all known deposits, with priority to Star & Comet, followed by Nyankanga and Geita Hill at this stage. The first round of drilling of the Star & Comet Deeps programme started in Q3 2014, with results expected for early 2015. The Refractory Ore Project encompasses the four deposits on Kukuluma terrain and their potential extensions: Matandani, Kukuluma, Area 3W and Area 3CS. In 2014 the geological modeling exercise was completed, and the respective Mineral Resource model will be released in 2015. Mineralisation remains open in all directions and additional drilling will follow in the 2015-2019 period, in parallel with advancing the metallurgical testing and economic evaluation exercises. The Satellite Deposits Project comprises more than 50 targets at different stages of exploration within GGM’s leases. During 2014 the target consolidation exercise was undertaken for 10 of these targets and the respective geological-exploration models and proposed drilling programmes will be out in 2015.

**MINERAL RESOURCE**

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

**Geita**

**Type of drilling**

**Category**

**Spacing**

**m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

–

–

–

–

–

–

Indicated

10 x 10,

X

X

20 x 20,

25 x 25,

40 x 20,

40 x 40

–

–

–

Classification studies were undertaken and revealed optimal spacing for the project areas

Inferred

40 x 40,

X

X

50 x 50,

80 x 40

—

—

—

—

Grade/Ore

control

5 x 10,

10 x 5

—

X

—

—

—

Depths vary from 10 to 30m

for routine grade control

drilling

CONTINENTAL AFRICA

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CONTINENTAL AFRICA

continued

Geita

*Inclusive Mineral Resource*

**Geita**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Area 3 west oxide*

Measured

–

–

–

–

Indicated

0.54

2.65

1.44

0.05

Inferred

0.00

2.13

0.01

0.00

Total

0.54

2.65

1.44

0.05

*Area 3 west (refractory ore)*

Measured

–

–

–

–

Indicated

0.00

3.09

0.01

0.00

Inferred

–

–

–

–

Total

0.00

3.09

0.01

0.00

*Chipaka*

Measured

—

—

—

—

Indicated

0.32

2.20

0.71

0.02

Inferred

0.95

2.36

2.23

0.07

Total

1.27

2.32

2.95

0.09

*Geita Hill (open pit)*

Measured

—

—

—

—

Indicated

11.04

2.70

29.85

0.96

Inferred

0.58

2.39

1.38

0.04

Total

11.61

2.69

31.23

1.00

*Geita Hill (underground)*

Measured

—

—

—  
—  
Indicated  
5.26  
4.36  
22.98  
0.74

*Kalondwa Hill*

Measured  
—  
—  
—  
—

Indicated

—  
—  
—  
—  
Inferred  
0.47  
3.96  
1.87  
0.06  
Total  
0.47  
3.96  
1.87  
0.06

*Kukuluma (non-refractory ore)*

Measured  
—  
—  
—  
—

Indicated

0.02  
4.24  
0.10  
0.00  
Inferred  
0.01



2.47  
 0.01  
 0.00  
 Total  
 0.03  
 3.92  
 0.12  
 0.00  
*Kukuluma (refractory ore)*  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 0.13  
 4.49  
 0.60  
 0.02  
 Inferred  
 0.52  
 3.88  
 2.02  
 0.07  
 Total  
 0.66  
 4.01  
 2.63  
 0.08  
*Lone cone*  
 Measured  
 –  
 –  
 –  
 –  
 Indicated  
 2.15  
 2.60  
 5.59  
 0.18  
 Inferred  
 1.54  
 2.66  
 4.09  
 0.13  
 Total  
 3.69  
 2.62  
 9.68  
 0.31  
*Matandani (non-refractory ore)*

Measured

—  
—  
—  
—

Indicated

0.72  
2.60  
1.88  
0.06

Inferred

0.18  
3.22  
0.58  
0.02

Total

0.90  
2.72  
2.46  
0.08

*Matandani (refractory ore)*

Measured

—  
—  
—  
—

Indicated

0.09  
4.34  
0.39  
0.01

Inferred

1.26  
5.04  
6.37  
0.20

Total

1.35  
5.00  
6.76  
0.22

*Nyankanga (open pit) cut 6*

Measured

—  
—  
—  
—

Indicated

0.49  
3.52  
1.72

0.06  
Inferred

0.00

3.66

0.01

0.00

Total

0.49

3.52

1.72

0.06

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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*Inclusive Mineral Resource*

**Geita**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Nyankanga (open pit) cut 7*

Measured

–

–

–

–

Indicated

9.70

3.70

35.91

1.15

Inferred

0.26

1.14

0.30

0.01

Total

9.96

3.63

36.21

1.16

*Nyankanga (open pit) cut 8*

Measured

–

–

–

–

Indicated

8.96

4.99

44.72

1.44

Inferred

1.34

1.36

1.82

0.06

Total

10.30

4.52

46.53

1.50

*Nyankanga others*

Measured

—

—

—

—

Indicated

0.30

3.08

0.93

0.03

Inferred

2.92

2.88

8.41

0.27

Total

3.22

2.90

9.35

0.30

*Nyankanga (underground)*

Measured

—

—

—

—

Indicated

2.63

5.69

14.99

0.48

Inferred

1.77

5.15

9.10

0.29

Total

4.40

5.48

24.09

0.77

*Ridge 8 (open pit)*

Measured

—

—

—

—

Indicated

3.30  
2.25  
7.42  
0.24  
Inferred  
0.08  
1.30  
0.10  
0.00  
Total  
3.38  
2.23  
7.52  
0.24  
*Ridge 8 (underground)*  
Measured  
—  
—  
—  
—  
Indicated  
1.91  
4.25  
8.11  
0.26  
Inferred  
2.80  
4.60  
12.89  
0.41  
Total  
4.71  
4.46  
21.00  
0.68  
*Roberts*  
Measured  
—  
—  
—  
—  
Indicated  
4.11  
1.78  
7.30  
0.23  
Inferred  
0.09  
3.92  
0.37  
0.01

Total

4.20

1.82

7.67

0.25

*Star and Comet*

Measured

—

—

—

—

Indicated

4.73

3.90

18.43

0.59

Inferred

0.49

2.82

1.37

0.04

Total

5.22

3.80

19.80

0.64

*Stockpile (full grade ore)*

Measured

—

—

—

—

Indicated

1.74

1.56

2.71

0.09

Inferred

—

—

—

—

Total

1.74

1.56

2.71

0.09

*Stockpile (marginal ore)*

Measured

0

0

0  
0  
Indicated  
10.27  
0.92  
9.42  
0.30  
Inferred  
—  
—  
—  
—  
Total  
10.27  
0.92  
9.42  
0.30  
*Stockpile (refractory ore)*  
Measured  
—  
—  
—  
—  
Indicated  
0.56  
2.80  
1.57  
0.05  
Inferred  
—  
—  
—  
—  
Total  
0.56  
2.80  
1.57  
0.05  
Geita  
Total  
88.55  
3.25  
288.17  
9.26  
CONTINENTAL AFRICA  
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CONTINENTAL AFRICA

continued

Geita

*Exclusive Mineral Resource*

**Geita**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

–

–

–

–

Indicated

40.39

2.98

120.49

3.87

Inferred

19.55

3.65

71.38

2.30

Total

59.94

3.20

191.88

6.17

The Exclusive Mineral Resource at Geita includes the underground Mineral Resource plus additional material that occurs predominantly

between the Ore Reserve pit shell and the Mineral Resource pit shell (at a gold price of \$1,600/oz). This material is not economic

to mine at the current Ore Reserve gold price and forms potential extensions to the current life of mine in an elevated gold price

environment. A significant portion of this material is in the Inferred Mineral Resource category (including 0.27Moz within the Ore

Reserve Pit shell) and infill drilling programmes are planned to upgrade potentially economic areas to Indicated Mineral Resource.

In instances where the mineralisation extends down-dip, below the current life of mine design pit shell and where it could potentially

be economically exploited by underground mining methods, a 35m crown pillar forms part of the Exclusive Mineral Resource below

the open pit limits. This material is not planned to be mined.

*Mineral Resource below infrastructure*

**Geita**

**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

–

–

–

–

Indicated

9.81

4.70

46.08

1.48

Inferred

8.86

4.56

40.43

1.30

Total

18.67

4.63

86.52

2.78

Star & Comet, Geita Hill and Nyankanga deposits all have depth extents and form potential underground projects.

Scoping studies

performed on these projects show them to be economically viable at the Mineral Resource gold price of \$1600/oz.

Currently no

infrastructure is in place to access this Mineral Resource and they have been separately categorised as Mineral

Resource below

infrastructure.

10.66

-0.54

0.00

-1.19

0.18

0.20

-0.05

0.00

9.26

Ounces

(millions)

10.8

10.6

10.4

10.2

10.0  
 9.8  
 9.6  
 9.4  
 9.2  
 9.0  
 8.8  
 8.6

–  
 –  
 –  
 –  
 –  
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 –  
 –  
 –  
 –  
 –  
 –

2013  
 Deple-  
 tion  
 Gold  
 price  
 Cost  
 Explo-  
 ration  
 Metho-  
 dology  
 Other  
 Acquisition/  
 disposal

2014  
**Geita**

Mineral Resource reconciliation: 2013 – 2014

3.90  
 -0.55  
 -0.05  
 -0.28  
 0.00  
 -0.00  
 0.08  
 0.00  
 3.10  
 Ounces  
 (millions)  
 3.9  
 3.8  
 3.7  
 3.6  
 3.5

3.4  
3.3  
3.2  
3.1  
3.0  
2.9

–  
–  
–  
–  
–  
–  
–  
–  
–  
–  
–

2013

Other

2014

**Geita**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
tion

Model  
change

Change in  
economics

New  
ounces

from  
projects

Scope  
change

Acquisition/  
disposal

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**108**

CONTINENTAL AFRICA

ORE RESERVE

*Ore Reserve*

**Geita**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Geita Hill (open pit)*

Proved

–

–

–

–

Probable

7.56

2.83

21.36

0.69

Total

7.56

2.83

21.36

0.69

*Nyankanga (open pit) cut 7*

Proved

–

–

–

–

Probable

9.00

3.81

34.32

1.10

Total

9.00

3.81

34.32

1.10

*Nyankanga (open pit) cut 8*

Proved

–

–

–

–

Probable

5.46

5.97

32.61

1.05

Total

5.46

5.97

32.61

1.05

*Star and Comet*

Proved

—

—

—

—

Probable

0.13

3.66

0.48

0.02

Total

0.13

3.66

0.48

0.02

*Stockpile (full grade ore)*

Proved

—

—

—

—

Probable

1.74

1.56

2.71

0.09

Total

1.74

1.56

2.71

0.09

*Stockpile (marginal ore)*

Proved

—

—

—

—

Probable

4.73

1.02

4.81  
0.15  
Total  
4.73  
1.02  
4.81  
0.15  
Geita  
Total  
28.61  
3.37  
96.29  
3.10  
**109**

CONTINENTAL AFRICA

continued

Geita

*Ore Reserve modifying factors*

**Geita**

**Gold price**

**Cut-off grade**

% MRF

% MRF

MCF

MetRF

**31 December 2014**

US\$/oz

g/t Au

(based on

tonnes)

(based

on g/t)

%

%

Geita Hill (open pit)

1,100

1.45

108

89

100.0

89.3

Nyankanga (open pit)

Cut 6, 7, 8, 9, 10, 11 and

Nyankanga Others

1,100

1.35

105

92

100.0

92.7

Star and Comet

1,100

1.55

112

84

100.0

90.5

Stockpile (Full Grade Ore)

1,100

1.35

105

92

100.0

91.0

Stockpile (Marginal Ore)



1,100  
 1.00  
 105  
 92  
 100.0  
 91.3  
 Stockpile (Refractory Ore)  
 1,100  
 2.35  
 105  
 92  
 100.0  
 48.1

*Dilution included in MRF. Added in -3% to account for no MCF*

*\* Stockpile (Full Grade and Marginal Ore) = Average factors among Nyankanga, Geita Hill and Star and Comet Ore Reserve below infrastructure*

There is no Ore Reserve reported below infrastructure.

*Inferred Mineral Resource in business plan*

**Geita**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Geita Hill (open pit)

0.30

1.93

0.57

0.02

Within Geita Hill East Cut 1 and 2 and

West Cut 2 design

Nyankanga (open pit) Cut 7

0.11

1.17

0.13

0.00

Within Nyankanga (open pit) Cut 7 design

Nyankanga (open pit) Cut 8

0.31

1.78

0.55

0.02

Within Nyankanga (open pit) Cut 8 design

Star and Comet

0.00

1.27

0.00

0.00	
Within Star and Comet Cut 2 design	
Total	
0.72	
1.74	
1.25	
0.04	
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 Mineral Resource.	
–	
–	
–	
–	
–	
–	
–	
0.0	
1.0	
0.5	
2.0	
1.5	
2.5	
3.5	
4.0	
3.0	
Tonnes	
above	
cut-off	
(millions)	
Average	
grade	
above	
cut-off	
(g/t)	
Cut-off grade (g/t)	
8	
7	
6	
5	
4	
3	
2	
70	
60	
50	
40	
30	
20	

10

0

Tonnes above cut-off

Ave grade above cut-off

**Geita**

Grade tonnage curve – Surface (metric)

—

0

1

2

3

4

5

6

7

8

9

Tonnes

above

cut-off

(millions)

Average

grade

above

cut-off

(g/t)

Cut-off grade (g/t)

16

14

12

10

8

6

4

2

0

50

45

40

35

30

25

20

15

10

5

0

Tonnes above cut-off

Ave grade above cut-off

**Geita**

Grade tonnage curve – Underground (metric)

-  
-  
-  
-  
-  
-  
-  
-  
-

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**110**

CONTINENTAL AFRICA  
COMPETENT PERSONS

**Geita**

**Category**

**Competent person**

**Professional  
organisation**

**Membership  
number**

**Relevant  
experience**

**Qualification**

Mineral Resource

Steven Robins

MAusIMM

222 533

19 years

BSc Hons (Geology)

MSc (Mineral Resource Evaluation)

Ore Reserve

Jasper Musadaidzwa

MAusIMM

991 333

17 years

BEng (Hons) (Mining)

GDE (Mineral Economics)

**111**

P112-127

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Regional overview

113

Australasia

116

Sunrise Dam

121

Tropicana

TROPICANA

IS AN

IMPORTANT

GROWTH

ASSET FOR

ANGLOGOLD

ASHANTI

AngloGold Ashanti's

Australasian assets

comprise Sunrise Dam

and the 70%-owned

Tropicana gold mine.

AUSTRALASIA

CAPTION: Exploration at Tropicana gold mine

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**112**

Contribution to regional production

by mine – 2014

•

Sunrise Dam

42

• Tropicana

58

%

Contribution to group production – 2014

•

Australasia

14

• Rest of AngloGold Ashanti

86

%

**AUSTRALASIA**

**Regional overview**

As at 31 December 2014, the total attributable Mineral Resource (inclusive of the Ore Reserve) for the Australia region was 9.58Moz (2013: 8.63Moz) and the attributable Ore Reserve, 3.53Moz (2013: 3.81Moz). Sunrise Dam accounted for 47% and Tropicana 53% of the region's Mineral Resource, and Australasia accounted for around 4% and 6% of the group's Mineral Resource and Ore Reserve respectively. AngloGold Ashanti operates two mines in Western Australia: Sunrise Dam, which is wholly-owned, and the new Tropicana gold mine, a joint-venture with Independence Group Ltd., who holds a 30% stake. Tropicana, a greenfields discovery made by AngloGold Ashanti, began production during 2013. AngloGold Ashanti manages Tropicana along with a large regional exploration programme that covers some 8,364km

2 of tenements along a 350km strike length, considered one of the most prospective regions for new gold discoveries in Australia.

Production from Australasia was steady at 620koz in 2014, equivalent to 14% of group production.

*Inclusive Mineral Resource*

**Australasia**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

31.77

1.43

45.46

1.46

Indicated

83.83

2.25

188.70

6.07

Inferred

23.35

2.73

63.84

2.05

Total

138.95

2.14

298.00

9.58

*Exclusive Mineral Resource*

**Australasia**

**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

3.50

0.83

2.89

0.09

Indicated

55.33

2.18

120.88

3.89

Inferred

23.35

2.73

63.84

2.05

Total

82.18

2.28

187.62

6.03

*Ore Reserve*

**Australasia**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Proved

28.27

1.51

42.57

1.37

Probable

28.19

2.38

67.09

2.16

Total



56.46

1.94

109.66

3.53

AUSTALASIA

Sunrise Dam

Tropicana

Moz

December 2013

December 2014

Australasia Mineral Resource – attributable

Per operation/project

0

1

2

3

4

5

6

7

8

Sunrise Dam

Tropicana

Moz

December 2013

December 2014

Australasia Ore Reserve – attributable

Per operation/project

0

1

2

3

4

5

6

7

8

**113**

**AUSTRALASIA**

continued

Regional overview

Operations

0

800km

Western

Australia

Sunrise Dam

Darwin

**AUSTRALIA**

Brisbane

Sydney

Canberra

Melbourne

Adelaide

Perth

Tropicana

Kalgoorlie

Tasmania

**COUNTRY OVERVIEW**

The Australasian assets currently comprise the Sunrise Dam and Tropicana gold mines. AngloGold Ashanti owns 100% of Sunrise

Dam gold mine and 70% of Tropicana gold mine.

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

target areas are being prioritised.

AngloGold Ashanti manages 4,882km

2

of tenements in and around Tropicana and has access to a further 3,482km

2

through JV's with

Independence Group NL.

**MINERAL RESOURCE ESTIMATION**

Sunrise Dam

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

domains. The geostatistical method of Ordinary Block Kriging is used to estimate the Mineral Resource. High-grade restraining is used

to limit the effects of outlier grade values. Dense patterns of underground RC are completed prior to the final mine design, upon which,

grade control models are created using conditional simulation. This allow for the probabilistic determination of the optimal mining stope

configuration.

Mining of the open pit Mineral Resource was completed during 2012, and mining of the crown pillar at the base of the pit finished in

early 2014. Remaining stockpiled material is estimated based on detailed grade control drilling completed prior to mining. Grades were

estimated by means of the conditional simulation geostatistical method.

The Golden Delicious deposit has been estimated using UC. All available geological drill-hole information is validated for use in the models and the local geology of the deposit is used to classify the drill-hole information into appropriate estimation domains. Detailed statistical analyses are conducted on each of these domains and this allows for the identification of high-grade outliers. If these values are anomalous to the characteristics of the general population they are then cut back to an appropriate upper limit for the population.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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Tropicana

All available geological drill-hole information is validated for use in the models and the local geology of the deposit is used to classify the

drill-hole information into appropriate geostatistical domains. Detailed statistical analyses are conducted on each of these domains.

The recoverable gold Mineral Resource for the open pit is estimated by uniform conditioning which estimates the proportion of material

recovered by mining above a cut-off grade, assuming a specified selective mining unit (SMU).

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

down plunge and along strike extents of the Havana deposit, outside the current Havana open pit. The geostatistical method of

Ordinary Kriging is used to estimate the underground Mineral Resource.

ORE RESERVE ESTIMATION

Sunrise Dam

The open pit Ore Reserve estimate is based on run-of-mine (ROM) stockpiles only. The underground Ore Reserve is based on portions

of the Mineral Resource model which were projected to be mineable based on price, mining factors and mill recovery assumptions.

The mining shapes are based in Indicated Mineral Resource materials that are projected to provide a 15% margin on total cost,

based on the reference assumptions. Mine layout and designs have been created within mining shapes for each geological domain,

to calculate the Ore Reserve directly from the Mineral Resource model. The Proved and Probable Ore Reserve was then defined by

applying the Mineral Resource classification for each estimation domain.

Tropicana

The Ore Reserve is estimated within the current pit design using the relevant Mineral Resource model, updated geotechnical and

metallurgical parameters and appropriate operating costs.

AUSTALASIA

## AUSTRALASIA

continued

Sunrise Dam

### INTRODUCTION

Sunrise Dam is approximately 220km north-northeast of Kalgoorlie and 55km south of Laverton in Western Australia.

Open pit

production began in 1997 and has now been completed at a final depth of 500m below surface. Underground mining commenced in

2003 with a number of different mining methods being applied, depending on the style of mineralisation and grade of the geological

domain. Mining is carried out by contractors and ore is treated in a conventional gravity and carbon-in-leach (CIL) process plant. The

underground mine is undergoing a significant growth phase with production expected to reach 2.6Mt of ore in 2015.

### 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 styles recognised:

- shear-related and high strain, e.g. Sunrise Shear Zone;
- stockwork development in planar faults with brittle characteristics (these occur in all rock types and are commonly concentrated at contacts within the volcanic stratigraphy or the porphyry margin and within hinge positions 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.

### EXPLORATION

During 2015, exploration around Sunrise Dam will focus on drill testing the under explored portions of the mine. Drill access has

been developed at the southern end of the mine which will allow testing of the southern and depth extensions of the Vogue orebody.

Coupled with this, the first stage of methodical exploration of the Carey Shear Zone will take place. Both areas are believed to have

significant Mineral Resource potential which will underpin the longevity of the operation. The number of drill rigs is set to increase so

as to execute the exploration plan.

### MINERAL RESOURCE

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

#### **Sunrise Dam**

#### **Type of drilling**

#### **Underground**

#### **Category**

#### **Spacing m (-x-)**

#### **Diamond**

#### **RC**

#### **Blasthole**

#### **Channel**

**Other  
Comments**

Measured

-  
-  
-  
-  
-  
-  
-

Indicated

20 x 20

X

X

-  
-  
-  
-

Inferred

40 x 40

X

X

-  
-  
-  
-

Grade/Ore control 7 x 7

-  
X  
-  
-  
-  
-

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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AUSTALASIA

*Inclusive Mineral Resource*

**Sunrise Dam**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Golden Delicious*

Measured

0.61

1.69

1.04

0.03

Indicated

1.88

1.50

2.82

0.09

Inferred

0.01

1.38

0.01

0.00

Total

2.50

1.55

3.87

0.12

*Stockpile (open pit)*

Measured

13.46

1.04

14.05

0.45

Indicated

–

–

–

–

Inferred

–

–

–

–

Total

13.46

1.04

14.05

0.45

*Underground*

Measured

—

—

—

—

Indicated

27.26

3.02

82.22

2.64

Inferred

15.16

2.68

40.64

1.31

Total

42.42

2.90

122.86

3.95

*Stockpile (underground)*

Measured

0.31

2.35

0.72

0.02

Indicated

—

—

—

—

Inferred

—

—

—

—

Total

0.31

2.35

0.72

0.02

Sunrise Dam

Total

58.69

2.41

141.51

4.55



**North**

**MINE GRID**

***DANIEL***

***PORTAL***

AST 1987 ODS

NORTH DECLINE

P4 1937 SDD

PN 4 DECLINE

BY-PASS

VOGUE 1792

DOL

1792 93S

GQ 1822 SDD

GQ 1822 NDD

***WSZ***

***PORTAL***

***WATU***

***PORTAL***

PN 4 1928 NDD

2001 DDD

COSMO EAST

**SSZ - PANEL 4**

**SSZ - PANEL 3**

**COSMO EAST**

**SSZ - PANEL 5**

**VOGUE**

**SSS**

SDGM - UNDERGROUND PROJECT AREAS

May 2014

**M39/217**

**M39/347**

***Open***

***Pit***

**NORTH**

**MINE GRID**

100500mN

100000mN

99500mN

50500mE

50000mE

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## AUSTRALASIA

continued

Sunrise Dam

*Exclusive Mineral Resource***Sunrise Dam****Tonnes****Grade****Contained gold****as at 31 December 2014****Category****million****g/t****Tonnes****Moz**

Measured

0.61

1.69

1.04

0.03

Indicated

21.15

2.79

59.07

1.90

Inferred

15.17

2.68

40.65

1.31

Total

36.93

2.73

100.77

3.24

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

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

Mineral Resource as the material is of a lower-grade and therefore fails to meet Ore Reserve cut-off grade requirements. The entire

Inferred Mineral Resource in the underground mine is included in the Exclusive Mineral Resource. Much of this Inferred Mineral

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

to be considered in the Ore Reserve definition process.

3.23

-0.29

0.00

0.00

0.12

1.49



Ounces  
(millions)

1.30  
1.25  
1.20  
1.15  
1.10  
1.05  
1.00  
0.95  
0.90  
0.85  
0.80

—  
—  
—  
—  
—  
—  
—  
—  
—  
—  
—

2013  
Other  
2014

**Sunrise Dam**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
tion  
Model  
change  
Change in  
economics  
New  
ounces  
from  
projects  
Scope  
change  
Acquisition/  
disposal

*Mineral Resource below infrastructure*

**Sunrise Dam**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**  
**Moz**  
 Measured

—  
 —  
 —  
 —

Indicated

1.68  
 2.62  
 4.40  
 0.14

Inferred

7.06  
 2.71  
 19.11  
 0.61

Total

8.74  
 2.69  
 23.51  
 0.76

ORE RESERVE

*Ore Reserve*

**Sunrise Dam**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Stockpile (open pit)*

Proved

13.46  
 1.04  
 14.05  
 0.45

Probable

—  
 —  
 —  
 —

Total

13.46  
 1.04  
 14.05  
 0.45

*Underground*

Proved

—  
—  
—  
—

Probable

7.68  
3.29  
25.24  
0.81  
Total  
7.68  
3.29  
25.24  
0.81

*Stockpile (underground)*

Proved

0.31  
2.35  
0.72  
0.02

Probable

—  
—  
—  
—

Total

0.31  
2.35  
0.72  
0.02

Sunrise Dam

Total

21.45  
1.87  
40.02  
1.29

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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AUSTALASIA

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AUSTRALASIA

continued

Sunrise Dam

*Ore Reserve modifying factors*

**Sunrise Dam**

**Gold**

**price**

**Cut-off**

**grade**

**Stoping**

**width**

**Dilution**

**Dilution**

**% MRF**

**% MRF**

**MCF**

**MetRF**

**31 December 2014**

**AUD/oz**

**g/t Au**

**cm**

**%**

**g/t**

**(based on**

**tonnes)**

**(based**

**on g/t)**

**%**

**%**

Stockpile (open pit)

1,261

—

—

—

—

—

—

—

80.0

Underground

1,261

1.29

2,600.0

8.0

0.20

98.8

98.8

100.0

82.5

Stockpile (underground)

1,261



1.29  
 2,600.0  
 8.0  
 0.20  
 98.8  
 98.8  
 100.0  
 82.5

*Inferred Mineral Resource in business plan*

**Sunrise Dam**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Underground

5.30

4.71

24.96

0.80

Inferred Mineral Resource in Cosmo East  
 and Vogue

Total

5.30

4.71

24.96

0.80

The Inferred Mineral Resource in the business plan includes the Vogue mineralisation, which will undergo further exploratory drilling during 2015 with the aim of increasing confidence in the area so as to bring it into the Ore Reserve and then into production.

*Ore Reserve below infrastructure*

No Ore Reserve reported below infrastructure.

**COMPETENT PERSONS**

**Sunrise Dam**

**Category**

**Competent person**

**Professional  
 organisation**

**Membership  
 number**

**Relevant  
 experience**

**Qualification**

Mineral Resource

Fraser Clark

MAusIMM

226 390  
13 years  
BSc Hons (Geology)  
Postgraduate Certificate in  
Geostatistics  
Ore Reserve  
Peter Merry  
MAusIMM  
306 163  
33 years  
BEng (Mining)  
GDE (Mining Engineering)  
0.00 0.25 0.50  
0.75 1.00 1.25 1.50 1.75 2.00 2.25 2.50 2.75 3.00  
Tonnes  
above  
cut-off  
(millions)  
Average  
grade  
above  
cut-off  
(g/t)  
Cut-off grade (g/t)  
4.0  
3.5  
3.0  
2.5  
2.0  
1.5  
1.0  
0.5  
0.0  
18  
16  
14  
12  
10  
8  
6  
4  
2  
0  
Tonnes above cut-off  
Ave grade above cut-off  
**Sunrise Dam**  
Grade tonnage curve – Surface (metric)  
–  
–  
–  
–

—  
—  
—  
—  
—  
—  
—  
0.50  
1.50  
2.50  
3.50  
4.50  
5.50  
7.50  
8.50  
6.50  
9.50  
Tonnes  
above  
cut-off  
(millions)  
Average  
grade  
above  
cut-off  
(g/t)  
Cut-off grade (g/t)  
22  
20  
18  
16  
14  
12  
10  
8  
6  
4  
2  
0  
160  
140  
120  
100  
80  
60  
40  
20  
0  
Tonnes above cut-off  
Ave grade above cut-off  
**Sunrise Dam**

Grade tonnage curve – Underground (metric)

–  
–  
–  
–  
–  
–  
–

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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## AUSTRALASIA

continued

Tropicana

## AUSTALASIA

### INTRODUCTION

Tropicana is located 330km east-northeast of Kalgoorlie, Western Australia. The mineral deposit is hosted in the eastern margin of the Yilgarn Craton. Tropicana is the first deposit discovered in this remote portion of the Great Victoria Desert which is widely regarded as an emerging gold province. Open pit mining began during 2012, with first gold production occurring during September 2013.

Together, the Tropicana, Havana, Havana South and Boston Shaker deposits define a north-east trending mineralised corridor,

approximately 1.2km wide and 5km long, that has been tested to a vertical depth of more than 1,200m. The Mineral Resource remains

open down-dip from the Tropicana, Havana and Boston Shaker deposits and has the potential to be extended to the north and south.

Neither the immediate metamorphic host rocks nor the mineralised zones are exposed at surface due to the presence of widespread

younger cover sequences of between 0.5m and 15m thick.

### GEOLOGY

The Tropicana deposit comprises a mineralised zone up to 50m thick, hosted predominantly in quartzo-feldspathic gneiss with

a garnet-gneiss dominated hangingwall package. The mineralisation is comprised of subordinate thin (3m to 5m), discontinuous

mineralised lenses that typically return intercepts of >0.5g/t gold. The Havana deposit comprises a lower, laterally continuous, higher-

grade lode up to 50m thick that is overlain, in the central and southern parts of the proposed pit, by stacked, typically lower-grade

and thinner (up to 25m thick) mineralised zones. Havana is also dominantly hosted in quartzo-feldspathic gneiss, again with a garnet

gneiss dominated hangingwall.

Mineralisation is accompanied by pyrite (2% to 8%) with accessory pyrrhotite, chalcopyrite and other minor sulphides and tellurides.

The gold mineralisation is related to shear planes that postdate the main gneissic fabric developed during peak granulite-facies

metamorphism.

### EXPLORATION

Brownfields exploration will continue to pursue the delineation of a new potential open pit satellite Mineral Resource within 60km

of the mine, while greenfields exploration will continue to focus on the discovery of new stand-alone deposits in the district. The

proposed exploration programmes comprises a mix of advanced and early stage work programmes including DD, RC and AC drilling.

Brownfields exploration will utilise the results of the 3D seismic survey completed in 2014 to help target and prioritise drilling in the

immediate Tropicana mine area.

### MINERAL RESOURCE

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

#### **Tropicana**

##### **Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

25 x 25

X

X

-

-

-

-

Indicated

50 x 50

X

X

-

-

-

-

Inferred

100 x 100

X

X

-

-

-

-

Grade/Ore control

10 x 12

-

X

-

-

-

-

**121**

*Inclusive Mineral Resource*

**Tropicana**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Boston Shaker – BS01*

Measured

–

–

–

–

Indicated

2.41

2.17

5.23

0.17

Inferred

0.07

2.58

0.17

0.01

Total

2.48

2.18

5.40

0.17

*Boston Shaker Shell*

Measured

–

–

–

–

Indicated

2.57

2.68

6.89

0.22

Inferred

2.03

3.12

6.35

0.20

Total

4.60

2.88

13.24

0.43

*Tropicana stage 1 – TP01*

Measured

3.52

2.01

7.10

0.23

Indicated

0.07

0.97

0.07

0.00

Inferred

0.00

0.99

0.00

0.00

Total

3.60

1.99

7.17

0.23

*Tropicana stage 2 – TP02*

Measured

3.95

1.85

7.32

0.24

Indicated

6.13

1.86

11.42

0.37

Inferred

0.02

1.78

0.03

0.00

Total

10.11

1.86

18.77

0.60

*Tropicana Shell*

Measured

0.12

1.89

0.22

0.01

Indicated



3.23  
1.78  
5.75  
0.19  
Inferred  
1.50  
1.95  
2.93  
0.09  
Total  
4.85  
1.84  
8.91  
0.29  
*Havana stage 1 – HA01*  
Measured  
2.49  
2.36  
5.89  
0.19  
Indicated  
0.13  
1.08  
0.14  
0.00  
Inferred  
–  
–  
–  
–  
Total  
2.62  
2.30  
6.02  
0.19  
*Havana stage 2 – HA02*  
Measured  
1.48  
1.90  
2.82  
0.09  
Indicated  
4.36  
1.82  
7.94  
0.26  
Inferred  
0.00  
1.14  
0.00  
0.00

Total

5.84

1.84

10.76

0.35

*Havana stage 3 – HA03*

Measured

0.70

2.70

1.89

0.06

Indicated

5.91

1.69

10.00

0.32

Inferred

0.00

2.91

0.00

0.00

Total

6.60

1.80

11.88

0.38

*Havana south – HS01*

Measured

–

–

–

–

Indicated

7.47

1.36

10.18

0.33

Inferred

0.01

2.28

0.03

0.00

Total

7.49

1.36

10.21

0.33

*Havana Shell*

Measured

0.07

3.19

0.23

0.01

Indicated

18.39

2.01

36.99

1.19

Inferred

0.18

2.40

0.43

0.01

Total

18.64

2.02

37.65

1.21

AUSTRALASIA

continued

Tropicana

MINERAL RESOURCE AND ORE RESERVE REPORT

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AUSTALASIA

**123**

AUSTRALASIA

continued

Tropicana

*Inclusive Mineral Resource*

**Tropicana**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Havana South Shell*

Measured

–

–

–

–

Indicated

2.37

1.31

3.09

0.10

Inferred

0.28

1.59

0.44

0.01

Total

2.64

1.34

3.53

0.11

*Stockpile (open pit)*

Measured

5.05

0.83

4.19

0.13

Indicated

–

–

–

–

Inferred

–

–

–

–

Total	
5.05	
0.83	
4.19	
0.13	
<i>Underground</i>	
Measured	
–	
–	
–	
–	
Indicated	
1.67	
3.58	
5.97	
0.19	
Inferred	
4.08	
3.14	
12.78	
0.41	
Total	
5.75	
3.26	
18.76	
0.60	
Tropicana	
Total	
80.26	
1.95	
156.49	
5.03	
<i>Exclusive Mineral Resource</i>	
<b>Tropicana</b>	
<b>Tonnes</b>	
<b>Grade</b>	
<b>Contained gold</b>	
<b>as at 31 December 2014</b>	
<b>Category</b>	
<b>million</b>	
<b>g/t</b>	
<b>Tonnes</b>	
<b>Moz</b>	
Measured	
2.89	
0.64	
1.85	
0.06	
Indicated	
34.18	
1.81	

61.81

1.99

Inferred

8.17

2.84

23.19

0.75

Total

45.24

1.92

86.85

2.79

The Exclusive Mineral Resource includes Inferred Mineral Resource at depth in the designed pits, and optimised shells, as well as the deeper portions of the Havana Deeps underground Mineral Resource, which are not yet drilled to a level of confidence to establish an Ore Reserve.

*Mineral Resource below infrastructure*

**Tropicana**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

–

–

–

–

Indicated

1.67

3.58

5.97

0.19

Inferred

4.08

3.14

12.78

0.41

Total

5.75

3.26

18.76

0.60

The Havana Deeps underground Mineral Resource is considered as being below infrastructure, as no development has yet taken place.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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AUSTALASIA  
ORE RESERVE

*Ore Reserve*

**Tropicana**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Boston Shaker – BS01*

Proved

–

–

–

–

Probable

2.24

2.30

5.14

0.17

Total

2.24

2.30

5.14

0.17

*Tropicana stage 1 – TP01*

Proved

3.13

2.20

6.89

0.22

Probable

0.04

1.42

0.05

0.00

Total

3.17

2.19

6.94

0.22

*Tropicana stage 2 – TP02*

Proved

3.54

2.00

7.09

0.23

Probable

5.16

2.11

10.91

0.35

Total

8.70

2.07

18.00

0.58

*Havana stage 1 – HA01*

Proved

2.17

2.63

5.72

0.18

Probable

0.07

1.53

0.11

0.00

Total

2.24

2.60

5.82

0.19

*Havana stage 2 – HA02*

Proved

1.26

2.14

2.70

0.09

Probable

3.57

2.11

7.53

0.24

Total

4.82

2.12

10.22

0.33

*Havana stage 3 – HA03*

Proved

0.61

3.03

1.84

0.06

Probable

4.53

2.05

9.28  
 0.30  
 Total  
 5.13  
 2.17  
 11.12  
 0.36  
*Havana South – HS01*  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 4.92  
 1.80  
 8.84  
 0.28  
 Total  
 4.92  
 1.80  
 8.84  
 0.28  
*Stockpile (open pit)*  
 Proved  
 3.78  
 0.94  
 3.57  
 0.11  
 Probable  
 –  
 –  
 –  
 –  
 Total  
 3.78  
 0.94  
 3.57  
 0.11  
 Tropicana  
 Total  
 35.01  
 1.99  
 69.64  
 2.24  
 5.41  
 -0.39  
 -0.01  
 0.02  
 0.00  
 0.00

0.00  
0.00  
5.03  
Ounces  
(millions)  
5.45  
5.40  
5.35  
5.30  
5.25  
5.20  
5.15  
5.10  
5.05  
5.00  
4.95

—  
—  
—  
—  
—  
—  
—  
—  
—  
—  
—

2013  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
disposal  
2014

**Tropicana**  
Mineral Resource reconciliation: 2013 – 2014  
2.63  
-0.39  
0.00  
-0.00  
0.00  
0.00  
0.00  
0.00  
0.00  
2.24

Ounces  
(millions)

2.65  
2.60  
2.55  
2.50  
2.45  
2.40  
2.35  
2.30  
2.25  
2.20  
2.15

—  
—  
—  
—  
—  
—  
—  
—  
—  
—  
—

2013  
Other  
2014

**Tropicana**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
tion

Model  
change

Change in  
economics

New  
ounces

from  
projects

Scope  
change

Acquisition/  
disposal

**125**

*Ore Reserve modifying factors*

**Tropicana**

**Gold price**

**Cut-off grade**

**Dilution**

**Dilution**

**MCF**

**MetRF**

**31 December 2014**

**AUD/oz**

**g/t Au**

**%**

**g/t**

**%**

**%**

1,261

0.70

–

–

100.0

89.9

Recovery 91.1% for oxide, 92.5% for transitional, 89.9% for fresh. Cut-off grade 0.5g/t for oxides and 0.7g/t for transitional and fresh.

*Inferred Mineral Resource in business plan*

**Tropicana**

**Tonnes**

**Grade**

**Contained gold**

**31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Boston Shaker – BS01

0.07

2.62

0.17

0.01

2.9% of total material for the location

Tropicana stage 2 – TP02

0.02

1.96

0.03

0.00

0.2% of total material for the location

Havana South – HS01

0.01

2.66

0.03

0.00

0.2% of total material for the location

Total

0.10

2.45

0.24

0.01

The Inferred Mineral Resource within the open pit design is included in the business plan, but makes up only a small proportion (<1%)

of the total mineralised material.

*Ore Reserve below infrastructure*

No Ore Reserve reported below infrastructure.

COMPETENT PERSONS

**Tropicana**

**Category**

**Competent person**

**Professional  
organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

Mark Kent

MAusIMM

203 631

17 years

BSc Hons (Geology)

MSc (Mineral Resource Evaluation)

Ore Reserve

Andrew Bridges

MAusIMM

300 976

17 years

BSc (Hons) Mining Engineering

AUSTRALASIA

continued

Tropicana

0.00

0.25

0.50

0.75

1.00

1.25

1.50

1.75

2.00

Tonnes

above

cut-off

(millions)





2.00  
2.25  
2.50  
Tonnes  
above  
cut-off  
(millions)  
Average  
grade  
above  
cut-off  
(g/t)  
Cut-off grade (g/t)  
3.6  
3.4  
3.2  
3.0  
2.8  
2.6  
2.4  
2.2  
2.0  
1.8  
1.6  
1.4  
1.2  
24  
22  
20  
18  
16  
14  
12  
10  
8  
6  
4  
2  
Tonnes above cut-off  
Ave grade above cut-off

**Tropicana**

Grade tonnage curve – Underground (metric)  
MINERAL RESOURCE AND ORE RESERVE REPORT

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Regional overview

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Argentina

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Cerro Vanguardia

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Brazil

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AGA Mineração

160

Serra Grande

166

Colombia

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Gramalote

171

La Colosa

174

Quebradona

177

United States of America

178

Cripple Creek & Victor

(CC&V)

NUEVO

CHAQUIRO

IS A MAIDEN

MINERAL

RESOURCE

DELIVERED BY

GREENFIELDS

EXPLORATION

SUCCESS

The Americas region has operations in Argentina, Brazil and the United States and projects in Colombia.

AMERICAS

CAPTION: The Cerro Vanguardia mine in

Argentina, a joint-venture with Formicruz

MINERAL RESOURCE AND ORE RESERVE REPORT

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Contribution to regional production

by country – 2014

.

Argentina

25

- Brazil

54

•

United States

21

%

Contribution to group production – 2014

•

Americas

22

- Rest of AngloGold Ashanti

78

%

AMERICAS

Regional overview

As at 31 December 2014, the total attributable Mineral Resource (inclusive of the Ore Reserve) for the Americas region was 72.48Moz (2013: 61.06Moz) and the attributable Ore Reserve, 7.56Moz (2013: 8.82Moz). This is equivalent to around 31% and 13% of the group's Mineral Resource and Ore Reserve respectively.

AngloGold Ashanti has four operations in the Americas, the Cripple Creek & Victor (CC&V) mine in the United States of America, the

Cerro Vanguardia SA mine in Argentina (92.5%), AngloGold Ashanti Córrego do Sítio Mineração operations (which is referred to as

AGA Mineração and includes the Cuiabá, Lamego and Córrego do Sítio mines) and Serra Grande, both in Brazil.

Combined production for the Americas was 996koz of gold in 2014, equivalent to 22% of group production.

*Inclusive Mineral Resource*

**Americas**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

284.50

1.15

326.31

10.49

Indicated

1,195.53

0.94

1,128.97

36.30

Inferred

1,076.04

0.74

799.23

25.70

Total

2,556.07

0.88

2,254.52

72.48

*Exclusive Mineral Resource*

**Americas**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes  
Moz**

Measured

157.88

1.15

181.18

5.83

Indicated

1,126.20

0.90

1,017.56

32.72

Inferred

1,064.18

0.74

784.22

25.21

Total

2,348.27

0.84

1,982.97

63.75

*Ore Reserve*

**Americas**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Americas region*

Proved

124.64

1.01

126.14

4.06

Probable

72.87

1.50

109.03

3.51

Total

197.51

1.19

235.17

7.56

AMERICAS

Gramalote

Serra  
Grande  
Quebradona  
CC&V  
AGA  
Mineração  
La Colosa  
Cerro  
Vanguardia  
Moz  
December 2013  
December 2014  
Americas Mineral Resource – attributable  
Per operation/project

0  
5  
10  
15  
20  
25  
30  
35

Serra  
Grande  
CC&V  
AGA  
Mineração  
Cerro  
Vanguardia  
Moz  
December 2013  
December 2014  
Americas Ore Reserve – attributable  
Per operation/project

0  
1  
2  
3  
4  
5  
6  
7

**129**

Currently in the Americas region, a mine expansion is in progress in the United States of America so as to maintain and upgrade the current production profiles.

The projects in Colombia form a significant contribution to AngloGold Ashanti's Mineral Resource with the three projects, La Colosa, Quebradona (AngloGold Ashanti 89.75% and B2Gold 10.25%) and Gramalote (a joint-venture with AngloGold Ashanti 51% and B2Gold 49%) contributing 41.74Moz.

AMERICAS

continued

Regional overview

Operations

Projects

**SOUTH AMERICA**

**NORTH AMERICA**

Serra Grande

AGA Mineração

Brazil

Cripple Creek & Victor

United States

of America

Cerro Vanguardia (92.5%)

Argentina

La Colosa

Quebradona (89.75%)

Gramalote (51%)

Colombia

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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AMERICAS

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AMERICAS

continued

Argentina

0

1,000km

Operations

Cordoba

**ARGENTINA**

Cerro Vanguardia

Santa Fe

Buenos Aires

Bahia Blanca

San Julian

Rio Gallegos

**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). Formicruz holds a 7.5% interest in the mine, with the remaining 92.5% belonging to AngloGold Ashanti.

Production is from both underground and open pit mining and is fed into either a CIL plant or heap leach.

**MINERAL RESOURCE ESTIMATION**

The mineralisation boundaries for each geological entity (veins, stockwork and wall rock) are defined from the detailed logging of

all geological drill-holes. This data is validated and the information is then used to create a three-dimensional model.

This model is

subsequently overlain with a 5m x 25m x 5m block model.

Volumetric measurements of the deposit are subsequently computed in the system using the relevant block dimensions. Ordinary

Kriging is used to perform the grade interpolation and field tests are conducted to determine appropriate in-situ densities.

Conditional simulations are performed in the main deposits for uncertainty assessment and the Mineral Resource is then classified into

the Measured, Indicated and Inferred Mineral Resource categories according to internal AngloGold Ashanti guidelines. For the veins

where simulations are not done, drill density is used to classify the Mineral Resource.

**ORE RESERVE ESTIMATION**

The appropriate Mineral Resource models are used as the basis for the Ore Reserve. All relevant modifying factors such as mining

dilution and costs are used in the Ore Reserve conversion process. This is based on the original block grades and tonnage and

includes waste material (both internal and external). Appropriate Ore Reserve cut-off grades are applied and all blocks above this

cut-off are reported.

It is important to emphasise the importance of 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 10g/t to 20g/t of silver per 1g/t of gold.

Cerro Vanguardia uses conventional

open pit mining with a double bench

height of 20m and underground

methods. Open pit mining is distributed

between multiple operating pits, typically

three to five at any one time; depending on the plant feed requirements. Currently, there are three underground mines which are operating simultaneously. Waste dumps and heap leach stockpiles are located adjacent to each pit. Plant-grade ore feed is trucked to either the long-range or the short-range stockpiles in order to smooth out the head grades and avoid recovery losses due to higher than planned silver grades.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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## INTRODUCTION

Cerro Vanguardia is a gold-silver mine located in Santa Cruz Province, southern Patagonia, Argentina, approximately 110km north-northwest of the coastal town of San Julián. The mining lease encompasses an area of approximately 540km<sup>2</sup>

. Access to the area is

by aircraft from Buenos Aires to Comodoro Rivadavia or Rio Gallegos and subsequently by road to the mine site. The orebodies comprise a series of epithermal vein deposits (low-sulphidation deposit) containing gold and large quantities of silver,

produced as a by-product. Cerro Vanguardia uses conventional open pit mining with a doubled bench height of 20m and underground

methods. Open pit mining is distributed between multiple operating pits, typically three to five at any one time; depending on the plant

feed requirements. Currently, there are three underground mines which are operated at same time. The underground workings, which

began production in 2010, account for around 20% of total production.

Waste dumps and heap leach stockpiles are located adjacent to each pit. Plant grade ore feed is trucked to either the long-range or

the short-range stockpiles in order to smooth out the head grades and avoid recovery losses due to higher than planned silver grades.

The metallurgical plant, CIL process, has a daily capacity of 3,000t and includes a cyanide recovery facility.

Production capacity of the

new heap leach facility, which was commissioned in the last quarter of 2012 and processes lower-grade material, is around 2.0Mtpa

at gold and silver grades of 0.9g/t and 20g/t respectively.

## GEOLOGY

Cerro Vanguardia is located in the core of the 60,000km<sup>2</sup>

Deseado Massif, one of the most extensive volcanic complexes in southern Patagonia, Argentina. The Deseado Massif is an extensive rhyolite province of Middle to Upper Jurassic age

deposited over Paleozoic low-grade metamorphic basement rocks. These rocks are exposed in erosional windows through overlying Cretaceous

sediments and Tertiary to Quaternary basalts.

The Middle to Upper Jurassic ignimbrites and volcanic rocks from Chon Aike Formation hosts a low-sulphidation

epithermal type gold and silver deposit. The thickness of the ignimbrite sequence is estimated to have exceeded 1,000m, but some lateral variations

have been identified across the district. Epithermal Au-Ag bearing structures cut across all Jurassic rocks in the stratigraphy. The two

main ignimbrite units, Masiva-Lajosa and Granosa, host the majority of mineralised veins. The Masiva-Lajosa

ignimbrite occurs at the top of the sequence whilst the Granosa ignimbrite occurs towards the bottom. These two ignimbrites are separated by two thinner,

polymictic ignimbrite units (Brechosa and Brechosa Base) and a sequence of stratified crystal to ash-rich tuffs

(Estratificada unit). The base of the sequence is a mixed unit of stratified ignimbrite intercalated with fine-grained tuffs (Estratificada Inferior

ignimbrite).

The mineralisation is concentrated in steeply-dipping quartz veins that cut the flat-lying ignimbrites and volcanoclastic rocks. The Cerro

Vanguardia district contains around 100 gold and silver-bearing epithermal veins for a cumulative exposed vein strike extension of more than 240km. Fifty seven veins are currently known to contain economic gold and silver mineralisation. All veins at Cerro Vanguardia consist mainly of quartz and adularia containing minor electrum, native gold, silver sulphides and native silver as fine-grained disseminations. Vein textures are mainly characterised by colloform-crustiform banding, pseudomorphic quartz-lattice textures, massive-to-vuggy quartz veins and vein breccias.  $^{40}\text{Ar}/^{39}\text{Ar}$  dating on adularia from the Osvaldo Diez vein yielded ages of  $153.4 \pm 1.46\text{Ma}$ ,  $152.9 \pm 2.75\text{Ma}$  and  $155.1 \pm 3.0\text{Ma}$ , while the age of the thick sequence of ignimbrites hosting the veins has been dated between 166 to 150Ma.

#### EXPLORATION

The objectives for the 2014 drilling programme were as follows:

- increase the Mineral Resource;
  - add more low-grade mineralisation for heap leach operation; and
  - identify and define new exploration targets based on geological mapping and ground magnetic surveys.
- The 2014 exploration programme included 26,682m of DD, 8,084m of RC, more than 4,000m of trenches and 1,450m of channel sampling. Exploration focused on the identification and development of the Mineral Resource around the southern part of the main central zone. Ground magnetic surveys were used to target some of the drilling in those areas. The main veins drilled during 2014 were Daniela, Dora, Fortuna, Osvaldo Diez, Liliana, Serena Norte, Serena Sur, Vanguardia 2 and Vanguardia 3. Fortuna and Osvaldo Diez are located

AMERICAS

continued

Cerro Vanguardia

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in the core of the main central zone, while Serena Norte marks the northern border and Liliana the southern end. The finding of another new blind Serena ore shoot (Serena Sur) on the southern border of the central area was an example of successful exploration following integration of regional and local geological and geophysical information. The ore shoot of mineralisation starts at about 100m below surface and extends down dip for more than 100m. New surface and shallow Mineral Resource was also identified at Daniela and Dora veins. Daniela is located on the southern border of the north part of the district. Mineralisation extends from surface to 50m. Dora, on the other hand, although located on the north-western boundary of the main central district, has similar characteristics. Vanguardia 2 and Vanguardia 3 are located in the northern area, and mineralisation extends from surface to a depth of approximately 200m. These last two veins have multiple branches and represent good heap leach material targets. The additional Mineral Resource generated was separated into full-grade vein material and low-grade heap leach material.

#### 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 project's net present value. Mining costs and strip ratios have increased as grades have decreased over the years.

Higher gold prices have extended the life of Cerro Vanguardia, but at higher stripping ratios and operating costs.

The recent startup of the heap leach turned low-grade material associated with some veins into new exploration targets. A project

has been initiated to identify the lower grade veins that were previously unmined that could be mined for heap leaching. Currently, the

heap leach Mineral Resource consists only of stock work material that is being mined concurrently with plant ore or from stockpiles.

Mapping and exploration was focused on discovering new veins, domes and other potential bulk-tonnage, low-grade deposits not

previously investigated within the district. More than 42km

2

of ground magnetic surveys were carried out this year in prospective zones

around the main central area, aiming for the identification and discovery of possible covered veins and blind ore-shoots.

The underground mining at Cerro Vanguardia complements the open pit production and will gradually become more dominant.

The tonnage from the open pits will decrease from the current 1Mtpa as the high-stripping-ratio open pits are replaced by

underground operations. The underground mines are currently producing 270,000tpa and are expected to increase their production

to 300,000tpa next year and up to 450,000tpa after 2016. Currently, several veins are being mined from underground with additional

projects planned.

#### AMERICAS

continued

Cerro Vanguardia

MINERAL RESOURCE AND ORE RESERVE REPORT

2014

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MINERAL RESOURCE

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

**Cerro Vanguardia**

**Type of drilling**

**Category**

**Spacing**

**m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

12 x 5,

12 x 15

–

X

X

–

–

–

Indicated

40 x 40

X

X

X

–

–

–

Inferred

80 x 80

X

X

X

–

–

–

Grade/Ore

control

12 x 5,

6 x 15

–

X

X

–

–

–

*Inclusive Mineral Resource*

**Cerro Vanguardia**

**Tonnes**

**Grade  
Contained gold  
as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Vein (open pit)*

Measured

2.20

5.71

12.56

0.40

Indicated

10.43

5.60

58.41

1.88

Inferred

2.14

5.52

11.80

0.38

Total

14.76

5.61

82.76

2.66

*Heap leach*

Measured

11.31

0,56

6.33

0.20

Indicated

16.35

0,49

7.94

0.26

Inferred

3.52

0.42

1.49

0.05

Total

31.18

0.51

15.75

0.51

*Vein (underground)*



Measured

0.20

8.36

1.66

0.05

Indicated

1.71

9.64

16.46

0.53

Inferred

0.36

7.47

2.68

0.09

Total

2.27

9.18

20.80

0.67

Cerro Vanguardia

Total

48.21

2.47

119.32

3.84

*Exclusive Mineral Resource*

**Cerro Vanguardia**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

4.45

2.08

9.24

0.30

Indicated

24.43

2.36

57.60

1.85

Inferred

6.02

2.65

15.97

0.51  
 Total  
 34.90  
 2.37  
 82.81  
 2.66

The Exclusive Mineral Resource is primarily located between the pit design and the Mineral Resource shell and exists due to the difference in the economic parameters that have been used. In marginal deposits, where the grades of gold and silver are above the Mineral Resource cut-off but below the Ore Reserve cut-off, significant zones of Exclusive Mineral Resource will be generated. Very deep Mineral Resource will also not be converted in the near term to Ore Reserve and is therefore listed as Exclusive Mineral Resource.

*Inclusive Mineral Resource by-product – Silver*

**Cerro Vanguardia**

**Tonnes**

**Grade**

**Contained Silver**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

13.70

27.28

373.77

12.02

Indicated

28.49

62.31

1,775.16

57.07

Inferred

6.02

77.27

464.92

14.95

Total

48.21

54.22

2,613.84

84.04

AMERICAS

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AMERICAS

continued

Cerro Vanguardia

*Mineral Resource below infrastructure*

**Cerro Vanguardia**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

0.36

7.47

2.68

0.09

Total

0.36

7.47

2.68

0.09

ORE RESERVE

*Ore Reserve*

**Cerro Vanguardia**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Vein (open pit)*

Proved

0.88

6.07

5.34

0.17  
Probable  
2.18  
6.20  
13.51  
0.43  
Total  
3.06  
6.16  
18.85  
0.61  
*Heap leach*  
Proved  
8.70  
0.63  
5.48  
0.18  
Probable  
2.28  
0.83  
1.90  
0.06  
Total  
10.98  
0.67  
7.37  
0.24  
*Vein (underground)*  
Proved  
0.18  
4.17  
0.74  
0.02  
Probable  
1.56  
8.54  
13.33  
0.43  
Total  
1.74  
8.10  
14.07  
0.45  
Cerro Vanguardia  
Total  
15.77  
2.55  
40.29  
1.30  
*Inferred Mineral Resource in business plan*  
**Cerro Vanguardia**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Vein (open pit)

0.12

6.63

0.82

0.03

Represents 3.8 % of open pit schedule

Heap leach

0.08

0.53

0.04

0.00

Represents 1.4% of heap leach schedule

Vein (underground)

0.39

5.43

2.13

0.07

Represents 13% of underground schedule

Total

0.60

5.01

2.99

0.10

4.13

-0.27

0.00

-0.00

0.14

-0.16

0.00

0.00

3.84

Ounces

(millions)

4.15

4.10

4.05

4.00

3.95

3.90

3.85

3.80

3.75  
 -  
 -  
 -  
 -  
 -  
 -  
 -  
 -

2013  
 Depletion  
 Gold price  
 Cost  
 Exploration  
 Methodology  
 Other  
 Acquisition/  
 disposal  
 2014

**Cerro Vanguardia**

Mineral Resource reconciliation: 2013 – 2014

1.57  
 -0.28  
 0.16  
 0.04  
 0.00  
 -0.19  
 0.00  
 0.00  
 1.30  
 Ounces  
 (millions)  
 1.60  
 1.55  
 1.50  
 1.45  
 1.40  
 1.35  
 1.30  
 1.25  
 1.20  
 -  
 -  
 -  
 -  
 -  
 -

–

–

2013

Other

2014

**Cerro Vanguardia**

Ore Reserve reconciliation: 2013 – 2014

Depletion

Model

change

Economics

New

ounces

from

projects

Scope

change

Acquisition/

disposal

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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This Mineral Resource is normally located in the deeper parts of the orebody, such as the bottom of the open pits and deeper portions of the underground Mineral Resource.

*Ore Reserve by-product – Silver*

**Cerro Vanguardia**

**Tonnes**

**Grade**

**Contained silver**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Proved

9.76

23.67

230.96

7.43

Probable

6.01

91.22

548.65

17.64

Total

15.77

49.43

779.61

25.06

*Ore Reserve modifying factors*

**Cerro Vanguardia**

**Gold**

**price**

**Cut-off**

**grade**

**Dilution**

**% MRF**

**% MRF**

**MCF**

**MetRF**

**31 December 2014 Mine**

**ARS/oz**

**g/t Au**

**%**

**(based on**

**tonnes)**

**(based**

**on g/t)**

**%**

**%**

**Vein (open pit)**



8,979  
 3.08  
 45.0  
 97.0  
 96.0  
 93.0  
 95.0  
 Heap leach  
 8,979  
 0.47  
 –  
 100.0  
 100.0  
 100.0  
 61.3  
 Vein (underground)  
 8,979  
 4.50  
 30.0  
 97.0  
 96.0  
 93.0  
 95.0

COMPETENT PERSONS

**Cerro Vanguardia**

**Category**

**Competent person**

**Professional  
 organisation**

**Membership  
 number**

**Relevant  
 experience**

**Qualification**

Mineral Resource

Juan Paredes

MAusIMM

227 738

18 years

MAusIMM

PhD (Geology)

Ore Reserve

Jorge Sanguin

MAusIMM

310 925

22 years

BEng (Mining)

–

–

–

–

–  
–  
–  
–  
–  
0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
Tonnes  
above  
cut-off  
(millions)  
Average  
grade  
above  
cut-off  
(g/t)  
Cut-off grade (g/t)  
18  
16  
14  
12  
10  
8  
6  
4  
2  
16  
14  
12  
10  
8  
6  
4  
2  
0  
Tonnes above cut-off  
Ave grade above cut-off  
**Cerro Vanguardia**  
Grade tonnage curve – Surface (metric)  
–  
–  
–

–  
–  
–  
–  
–  
0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
Tonnes  
above  
cut-off  
(millions)  
Average  
grade  
above  
cut-off  
(g/t)  
Cut-off grade (g/t)  
19  
18  
17  
16  
15  
14  
13  
12  
11  
10  
9  
8  
2.4  
2.2  
2.0  
1.8  
1.6  
1.4  
1.2  
1.0  
0.8  
0.6  
0.4  
Tonnes above cut-off

Ave grade above cut-off

**Cerro Vanguardia**

Grade tonnage curve – Underground (metric)

AMERICAS

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## COUNTRY OVERVIEW

AngloGold Ashanti's operations in Brazil comprise AngloGold Ashanti Córrego do Sítio Mineração (AGA Mineração) in the Quadrilátero

Ferrífero and Mineração Serra Grande in Goiás state. AGA Mineração consists of several operations, namely Cuiabá, Lamego and

Córrego do Sítio as current operating mines and Nova Lima Sul as a conceptual project.

AGA Mineração

The Cuiabá mine, one of the largest underground gold mines in Brazil, has been in operation since 1984. The mine is hosted in a

greenstone belt environment and consists of gold mineralisation in massive to disseminated sulphides (mainly pyrite, subordinate

arsenopyrite and pyrrhotite). The main mineralisation host rock is Banded Iron Formation (BIF), sealed by graphite schists and

metabasic rocks alternating in the hangingwall and footwall, depending on the position within the folded structure.

Mining levels are

60m to 66m apart vertically; the deepest development at Cuiabá mine has reached a depth of 1,170m below surface currently at

level 18, while the shaft facilities are located at level 11,840m from surface.

Lamego mine is a satellite deposit to Cuiabá, also hosted in BIF, with demonstrated higher structural activity in the shear zone,

resulting in an extremely complex set of orebodies.

Córrego do Sítio is a new mine, operating since 2012. It comprises two sulphide underground operations; currently Cachorro Bravo,

Laranjeiras and Carvoaria located at the Córrego do Sítio I area and Sangue de Boi and São Bento located at the Córrego do

Sítio II area. The oxide open pit operation (currently Rosalino, Carvoaria and Laranjeiras) is located in the Córrego do Sítio I area. The

operating mines are hosted in a metasedimentary sequence of the Rio das Velhas greenstone belt.

The entire Córrego do Sítio complex comprises 23 mineral deposits reported as Mineral Resource plus some exploration targets that

are being developed. Exploration potential is still open with mineralisation along a large set of structural trends (16 to 20km of strike).

Serra Grande

Since July 2012, Mineração Serra Grande S.A (Serra Grande) has been a wholly-owned AngloGold Ashanti company. The mine

complex is located in the municipality of Crixás, in the central portion of Brazil, 400km from the capital, Brasília, and about 350km

from the state capital of Goiás, Goiânia.

Serra Grande is located in a Greenstone belt bordering the São Francisco Craton. Gold mineralisations is associated mainly with

quartz veins, with subordinate amounts of massive to disseminated sulphides in the metasedimentary sequences.

AMERICAS

continued

Brazil

Operations

0

1,000km

**BRAZIL**

Serra Grande

Recife

Salvador

Belo Horizonte

Crixas

Manaus

Belem

Rio de Janeiro

Sao Paulo

Brasilia

AGA Mineração

MINERAL RESOURCE AND ORE RESERVE REPORT

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The main producing areas are Palmeiras mine in the southern portion of mine camp, Pequizão orebody from Mina Nova, the Mina III (orebody IV) and the open pit (outcrop of Mina III). Exploration strategy is focusing on high grade targets. In 2014 confirmation of the high-grade mineralisation (average > 8g/t) was identified beneath Pequizão and currently this Mineral Resource is reported as an Inferred Mineral Resource (Ingá orebody).

#### MINERAL RESOURCE ESTIMATION

The Cuiabá dataset consists of channel samples and drill-hole samples. The 3D modelling and estimation is performed with two estimation domains, namely the thick mineralisation, consisting of Fonte Grande Sul (FGS) and Serrotinho (SER), and the narrow-vein domain consisting of Balancão, Galinheiro and Canta Galo. All channel and drill-hole samples are used in the 3D geological models and identify rock types in order to incorporate lithological proportions into the grade estimates. Conditional Simulation is applied to estimate the uncertainty in the block models and classify the Mineral Resource into Measured, Indicated and Inferred, following a standard internal AngloGold Ashanti method.

Lamego shows similar rock assemblage but higher structural complexity than Cuiabá. The BIF which contains the mineralisation is more structurally deformed and is sometimes described as 'metachert'. Lamego is part of the Cuiabá complex – they are 7km apart, with existing infrastructure to truck the ore by sealed road to Cuiabá. The Lamego run-of-mine (ROM) product is treated at Cuiabá's gravity and flotation gold plant. The sulphide concentrates from both mines are transported to the Queiroz plant complex for the last process of the metallurgical recovery which consists of a roaster, which produces gold and sulphuric acid. The estimation method applied at Lamego is Ordinary kriging and classification of the Mineral Resource is also based on simulation techniques.

CdS mineralisation occurs in a greenstone belt geological environment, associated with quartz and sulphides (mainly arsenopyrite) in a structurally-controlled corridor approximately 16 – 20km in strike length and about 500m vertical extent. The Mineral Resource is estimated by Ordinary Kriging, and classified using geostatistical Conditional Simulation techniques.

Raposos mine in the Nova Lima project was estimated by the geostatistical UC technique, and both Morro da Glória and Luzia da

Mota were estimated by Ordinary Kriging.

The Serra Grande Mineral Resource is modeled geologically to represent the geometry of each mineralised lense, over the several targets and stratigraphic horizons of the mine and in accordance to the mineralisation type (quartz veins, massive or disseminated sulphide) and estimated by Ordinary Kriging method.

#### ORE RESERVE ESTIMATION

The gold price, projected operational performance and costs as well as metallurgical recoveries are taken into consideration in determining the Ore Reserve. Mining parameters such as the mining method, minimum mining width, MCF, dilution and recovery are all applied in the process.

#### AMERICAS





**OVERVIEW**

AngloGold Ashanti Córrego do Sítio Mineração (commonly referred to as AGA Mineração) encompasses the mining operations at

Cuiabá, Lamego and Córrego do Sítio.

The AGA Mineração mining complex is located in south-eastern Brazil, in the state of Minas Gerais. Operations are 30km from the

capital of the state (Belo Horizonte) in the case of Cuiabá and Lamego, and about 100km in the case of Córrego do Sítio mines, in the

municipalities of Nova Lima, Sabará and Santa Bárbara respectively.

This area is inside the geological province of Quadrilátero Ferrífero (the Iron Ore Quadrangle), in a greenstone belt sequence,

recognised as one of the most important mining districts in the world, comprising of a number of historical and active gold mines and

several iron ore mines.

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 comprises two underground mines feeding a pressure leaching plant and

an oxide ore open pit mine feeding a heap leaching facility.

Nova Lima Sul project, which involves the re-opening of the mothballed Raposos mine, is currently at the conceptual stage and has

been placed on hold.

All these operations are primarily gold mines, while sulphur (for the production of sulphuric acid) is a by-product of the Cuiabá and

Lamego mining operations.

**MINERAL RESOURCE**

*Inclusive Mineral Resource*

**AGA Mineração**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

13.68

6.51

89.05

2.86

Indicated

17.59

5.79

101.90

3.28

Inferred

36.87

6.30

232.09

7.46  
Total  
68.13  
6.21  
423.03  
13.60

*Exclusive Mineral Resource*

**AGA Mineração**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

9.40

6.43

60.38

1.94

Indicated

13.08

5.03

65.81

2.12

Inferred

36.44

6.31

229.96

7.39

Total

58.92

6.04

356.15

11.45

*Mineral Resource below infrastructure*

**AGA Mineração**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

1.41

3.69

5.20  
0.17  
Indicated

11.28

5.28

59.59

1.92

Inferred

35.33

6.31

222.78

7.16

Total

48.01

5.99

287.57

9.25

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continued

AGA Mineração

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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AMERICAS

*Inclusive Mineral Resource by-product – Sulphur (S)*

**AGA Mineração**

**Tonnes**

**Grade**

**Contained Sulphur**

**as at 31 December 2014**

**Category**

**million**

**%S**

**Tonnes million Pounds million**

Measured

7.20

6.7

0.48

1,057.67

Indicated

7.06

6.1

0.43

955.58

Inferred

12.20

6.9

0.84

1,850.26

AGA Mineração

Total

26.46

6.6

1.75

8,363.51

11.96

-0.48

0.00

0.08

1.46

-0.21

0.80

0.00

13.60

Ounces

(millions)

14.0

13.5

13.0

12.5

12.0

11.5

11.0

10.5

-  
-  
-  
-  
-  
-  
-  
2013  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
disposal  
2014

**AGA Mineração**

Mineral Resource reconciliation: 2013 – 2014

1.97  
-0.43  
-0.00  
0.05  
0.05  
-0.02  
0.19  
0.00  
1.81  
Ounces  
(millions)  
2.00  
1.95  
1.90  
1.85  
1.80  
1.75  
1.70  
1.65  
1.60  
1.55  
1.50  
1.45

-  
-  
-  
-  
-

—  
—  
—  
—  
—  
—

2013

Other

2014

**AGA Mineração**

Ore Reserve reconciliation: 2013 – 2014

Deple-  
tion

Model  
change

Change in  
economics

New  
ounces

from  
projects

Scope  
change

Acquisition/  
disposal

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AGA Mineração

ORE RESERVE

*Ore Reserve*

**AGA Mineração**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Proved

4.45

5.05

22.48

0.72

Probable

6.25

5.42

33.86

1.09

Total

10.70

5.26

56.34

1.81

*Ore Reserve by-product – Sulphur (S)*

**AGA Mineração**

**Tonnes**

**Grade**

**Contained Sulphur**

**as at 31 December 2014**

**Category**

**million**

**%S**

**Tonnes million Pounds million**

Proved

2.39

4.1

0.10

216.37

Probable

4.67

4.7

0.22

485.26

Total

7.06  
 4.5  
 0.32  
 701.63  
*Ore Reserve below infrastructure*  
**AGA Mineração**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**  
**Category**  
**million**  
**g/t**  
**Tonnes**  
**Moz**  
 Proved  
 0.09  
 5.79  
 0.52  
 0.02  
 Probable  
 3.08  
 5.32  
 16.39  
 0.53  
 Total  
 3.17  
 5.34  
 16.91  
 0.54  
 0.00 0.25 0.50  
 1.00  
 0.75  
 1.25 1.50 1.75 2.00 2.25 2.50 2.75 3.00  
 Tonnes  
 above  
 cut-off  
 (millions)  
 Average  
 grade  
 above  
 cut-off  
 (g/t)  
 Cut-off grade (g/t)  
 6.0  
 5.5  
 5.0  
 4.5  
 4.0  
 3.5  
 3.0



2.5  
6.0  
5.5  
5.0  
4.5  
4.0  
3.5  
3.0  
2.5  
2.0  
1.5  
1.0

Tonnes above cut-off

Average grade above cut-off

**AGA Mineração**

Grade tonnage curve – Surface (metric)

–  
–  
–  
–  
–  
–  
–  
–  
–  
–  
–  
0.0  
0.5  
1.0  
1.5  
2.0  
2.5  
3.0  
3.5  
4.0  
4.5  
5.0

Tonnes  
above  
cut-off  
(millions)

Average grade above cut-off (g/t)

Cut-off grade (g/t)

9.0  
8.5  
8.0  
7.5  
7.0  
6.5

6.0  
5.5  
5.0  
4.5  
80  
75  
70  
65  
60  
55  
50  
45  
40  
35  
30

Tonnes above cut-off

Ave grade above cut-off

**AGA Mineração**

Grade tonnage curve – Underground (metric)

–  
–  
–  
–  
–  
–  
–  
–  
–  
–

MINERAL RESOURCE AND ORE RESERVE REPORT

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## AMERICAS

continued

AGA Mineração – Córrego do Sítio

### INTRODUCTION

Córrego do Sítio (CdS) is located 60km east of the city of Belo Horizonte, which is in the state of Minas Gerais in Brazil. The southern

portion of this mining complex is referred to as Córrego do Sítio I (CdS I) while the northern portion (formerly known as São Bento) has

been renamed Córrego do Sítio II (CdS II).

The mining method for CdS I mine is sub-level caving with rock fill. Each panel consists of three levels, with secondary development of

300m from the cross cut in a north-east direction and 300m from cross cut in a south-west direction. The stopes are 15m in height.

The mining sequence is predominantly bottom/up, though top/down sequences also apply, depending on the position of the primary

development in relation to the secondary development. According to geotechnical guidance, a sill pillar of 4m in height is designed

between panels, and 4m rib pillars are used each 30m along the strike.

The blast drilling for stopes is executed via fandrilling in ascending and descending directions. The loading and hauling operations

occur with front-end loaders (LHDs) each with capacity of 8t each and articulated trucks, each with a capacity of 30t, at a current

monthly production rate of 42,000t.

### GEOLOGY

CdS is located in the eastern part of the lower to middle greenschist facies Archaean Rio das Velhas greenstone belt.

The CdS I and

CdS II gold deposits and associated targets are located in a gold trend that extends for about 14km in a north-easterly direction, from

Grota Funda (CdS I areas) in the south to Jambreiro (São Bento/CdS II areas) in the north. The main gold targets and deposits are

distributed over three trends, namely the CdS trend, the Donana Trend and the Cristina Trend.

The CdS deposits consist of narrow north-east/south-west elongated lenses of mineralisation dipping 60 to 70 degrees south-east

and plunging 20 to 30 degrees north-east. CdS is an orogenic type deposit and comprises many hydrothermal lodes with quartz veins

and low sulphide content disseminated in the wall rocks. The deposits are narrow, elongated and folded. In general, the mineralisation

consists of sericitic zones and quartz veinlets.

The gold occurs as microscopic or sub-microscopic inclusions in arsenopyrite and sometimes iron-antimony sulphide berthierite

(FeSb

2

S

4

). Other typical sulphide minerals are pyrrhotite, pyrite and chalcopyrite.

### EXPLORATION

In 2014, 20,254m of drilling were executed along the CdS trends with the exploration work focused on:

- supporting the production plan of the mines through Mineral Resource conversion;
- assessing high grade mineralisation targets; and

.

evaluating the potential of near-mine areas and the region.

To support the production plan a drilling campaign was conducted on the oxide Mineral Resource aimed at converting the Mineral

Resource from Inferred to Indicated Mineral Resource in the areas planned to be mined over the next two years. The best results came

from Rosalino open pit complex where the drilling campaign resulted in an addition to the Mineral Resource and improved knowledge

of the geological model. At the Pinta Bem oxide target, a new model was developed based on existing holes at the São Bento mine

(CdS II).

A review process of the geological database started in 2013 and continued during 2014. The objective of this work is to review the

geological potential of some orebodies in the Córrego do Sítio II area, particularly the São Bento Mineral Resource.

Results of this work

include the re-evaluation and reporting of Inferred Mineral Resource for São Bento orebody as well as Sangue de Boi.

AMERICAS

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MINERAL RESOURCE

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

**AGA Mineração – Córrego do Sítio**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

RC

Blasthole

Channel

Other

**Comments**

Measured

25 x 25

X

–

–

X

–

–

Indicated

25 x 40,

X

30 x 25,

50 x 30,

50 x 50

–

–

–

–

–

Inferred

30 x 25,

X

40 x 100,

50 x 30,

100 x 50,

100 x 100,

200 x 200

–

–

X

–

–

Grade/Ore

control

3 x 3,

5 x 4

–

–

–

X

–

–

*Inclusive Mineral Resource*

**AGA Mineração – Córrego do Sítio**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*CdS I (Cachorro Bravo)*

Measured

0.89

7.13

6.37

0.20

Indicated

0.49

8.11

3.97

0.13

Inferred

0.86

6.94

5.96

0.19

Total

2.24

7.27

16.30

0.52

*CdS I (Carvoaria)*

Measured

0.27

12.03

3.27

0.11

Indicated

0.57

9.73

5.53

0.18

Inferred

0.31

10.92

3.38

0.11

Total  
1.15  
10.59  
12.17  
0.39  
*CdS I (secondary orebodies)*  
Measured  
0.29  
4.50  
1.32  
0.04  
Indicated  
2.35  
4.32  
10.16  
0.33  
Inferred  
3.77  
3.71  
14.01  
0.45  
Total  
6.42  
3.97  
25.49  
0.82  
*CdS I (Laranjeiras)*  
Measured  
0.87  
6.20  
5.41  
0.17  
Indicated  
1.15  
5.59  
6.43  
0.21  
Inferred  
2.46  
6.91  
16.98  
0.55  
Total  
4.48  
6.43  
28.82  
0.93  
*CDS I Rosalino (oxides)*  
Measured  
1.82  
2.90

5.28

0.17

Indicated

0.80

2.44

1.94

0.06

Inferred

0.07

2.01

0.14

0.00

Total

2.69

2.74

7.36

0.24

AMERICAS

continued

AGA Mineração – Córrego do Sítio

MINERAL RESOURCE AND ORE RESERVE REPORT

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AMERICAS

*Inclusive Mineral Resource*

**AGA Mineração – Córrego do Sítio**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*CDS I secondary (oxides)*

Measured

0.98

4.18

4.10

0.13

Indicated

1.26

3.06

3.84

0.12

Inferred

1.23

3.58

4.40

0.14

Total

3.47

3.56

12.34

0.40

*CdS I (transitional)*

Measured

0.70

3.47

2.43

0.08

Indicated

0.51

4.13

2.10

0.07

Inferred

0.33

6.61

2.17

0.07

Total

1.54

4.36  
6.71  
0.22  
*CdS II (Sangue de Boi)*  
Measured  
0.05  
9.16  
0.44  
0.01  
Indicated  
0.51  
7.51  
3.84  
0.12  
Inferred  
1.61  
6.32  
10.20  
0.33  
Total  
2.17  
6.66  
14.48  
0.47  
*CdS II (Sao Bento mine)*  
Measured  
0.06  
7.42  
0.46  
0.01  
Indicated  
0.70  
7.23  
5.07  
0.16  
Inferred  
4.12  
5.91  
24.36  
0.78  
Total  
4.89  
6.12  
29.89  
0.96  
*CdS II (secondary orebodies)*  
Measured  
—  
—  
—  
—

Indicated

0.38

2.92

1.12

0.04

Inferred

3.63

3.19

11.57

0.37

Total

4.01

3.17

12.69

0.41

*CdS II (transitional)*

Measured

—

—

—

—

Indicated

0.10

2.90

0.28

0.01

Inferred

0.19

3.41

0.65

0.02

Total

0.29

3.24

0.93

0.03

*CdS II (oxides)*

Measured

—

—

—

—

Indicated

0.74

3.12

2.32

0.07

Inferred

1.94

3.37

6.55

0.21  
 Total  
 2.69  
 3.30  
 8.87  
 0.29

Córrego do Sítio

Total

36.03

4.89

176.06

5.66

*Exclusive Mineral Resource*

**AGA Mineração – Córrego do Sítio**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

3.99

4.12

16.43

0.53

Indicated

9.26

4.48

41.51

1.33

Inferred

20.52

4.89

100.37

3.23

Total

33.77

4.69

158.31

5.09

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ORE RESERVE

*Ore Reserve*

**AGA Mineração – Córrego do Sítio**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*CdS I (Cachorro Bravo)*

Proved

0.09

4.86

0.43

0.01

Probable

0.23

4.74

1.07

0.03

Total

0.31

4.78

1.50

0.05

*CdS I (Carvoaria)*

Proved

0.25

6.32

1.56

0.05

Probable

0.42

5.71

2.42

0.08

Total

0.67

5.93

3.97

0.13

*CdS I (Laranjeiras)*

Proved

0.37

4.78

1.78

0.06

Probable

0.27  
4.40  
1.17  
0.04  
Total  
0.64  
4.62  
2.95  
0.09  
*CDS I Rosalino (oxides)*  
Proved  
1.11  
2.55  
2.84  
0.09  
Probable  
0.28  
2.24  
0.63  
0.02  
Total  
1.40  
2.48  
3.47  
0.11  
*CdS II (Sangue de Boi)*  
Proved  
0.02  
7.51  
0.14  
0.00  
Probable  
0.33  
6.65  
2.19  
0.07  
Total  
0.35  
6.69  
2.33  
0.07  
*CdS II (Sao Bento mine)*  
Proved  
0.22  
6.74  
1.51  
0.05  
Probable  
0.02  
4.85  
0.08

0.00  
 Total  
 0.24  
 6.62  
 1.58  
 0.05  
*CdS II (oxides)*  
 Proved  
 –  
 –  
 –  
 –  
 Probable  
 0.04  
 2.46  
 0.09  
 0.00  
 Total  
 0.04  
 2.46  
 0.09  
 0.00  
 Córrego do Sítio  
 Total  
 3.64  
 4.36  
 15.90  
 0.51  
*Ore Reserve modifying factors*  
**AGA Mineração –  
 Córrego do Sítio  
 Gold  
 price  
 Cut-off  
 grade  
 Stopping  
 width  
 Dilution  
 % RMF  
 % RMF  
 % MRF  
 % MRF  
 MCF  
 MetRF  
 31 December 2014  
 BRL/oz  
 g/t Au  
 cm  
 %  
 (based on  
 tonnes)**

(based  
on g/t)

(based on  
tonnes)

(based  
on g/t)

%

%

CdS I

(Cachorro Bravo)

2,801

3.39

302.0

73.0

102.0

110.0

92.0

90.0

90.0

87.0

CdS I (Carvoaria)

2,801

3.39

287.0

81.0

102.0

110.0

94.0

90.0

90.0

87.0

CdS I (Laranjeiras)

2,801

3.39

307.0

66.0

102.0

110.0

94.0

90.0

90.0

87.0

CDS I Rosalino (oxides)

2,801

0.69

—

—

100.0

100.0

100.0

100.0



100.0

85.0

CdS II

(Sangue de Boi)

2,801

4.39

308.0

25.0

100.0

100.0

95.0

90.0

90.0

87.0

CdS II

(Sao Bento mine)

2,801

4.39

305.0

31.0

100.0

100.0

95.0

90.0

90.0

87.0

CdS II (oxides)

2,801

0.50

–

–

100.0

100.0

100.0

100.0

100.0

85.0

AMERICAS

continued

AGA Mineração – Córrego do Sítio

MINERAL RESOURCE AND ORE RESERVE REPORT

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AMERICAS

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AMERICAS

continued

AGA Mineração – Córrego do Sítio

*Inferred Mineral Resource in business plan*

**AGA Mineração –**

**Córrego do Sítio**

**Tonnes**

**Grade**

**Contained gold**

**31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

CdS I (Cachorro Bravo)

0.41

4.22

1.73

0.06

CdS I (Carvoaria)

0.33

5.98

1.95

0.06

CdS I (Laranjeiras)

1.47

4.71

6.91

0.22

CDS I Rosalino (oxides)

0.01

1.50

0.02

0.00

Inferred Mineral Resource inside designed pit

CdS II (Sangue de Boi)

0.34

8.22

2.80

0.09

CdS II (oxides)

0.02

3.20

0.05

0.00

Inferred Mineral Resource inside designed pit

Total

2.57

5.23

13.46

0.43

The Inferred Mineral Resource has been included in the mine design, but not in the mine plan. The Inferred Mineral Resource has been located in the mining panels in the lower areas of some sulphide deposits such as Cachorro Bravo, Laranjeiras, Carvoaria and Sangue de Boi.

**COMPETENT PERSONS**

**AGA Mineração – Córrego do Sítio**

**Category**

**Competent person**

**Professional  
organisation**

**Membership  
number**

**Relevant  
experience**

**Qualification**

Mineral Resource

Leonardo Hiram Nunez

MAusIMM

312 268

9 years

BSc (Geology)

Ore Reserve

Cristovao dos Santos

MAusIMM

312 542

7 years

MSc (Mining Engineering)

MINERAL RESOURCE AND ORE RESERVE REPORT

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## AMERICAS

continued

AGA Mineração – Cuiabá

### INTRODUCTION

The Cuiabá mine is located near Sabará, south-east of the city of Belo Horizonte within the mining district referred to as the Iron

Quadrangle. This region is the second largest producer of iron, gold and manganese in Brazil. The first mining works in the area were

carried out by artisanal miners in 1740. The mine was acquired by the Saint John Del Rey Mining Company Ltd in 1834. Research

work and drift development were resumed in 1977, culminating with the reopening of the mine in 1985. In 1996, the company became

a wholly-owned subsidiary of the then Anglo American Group, and in 1999, its ownership was transferred to the holding company

AngloGold Limited (now AngloGold Ashanti), where it remains to this day.

In 2005, the Cuiabá expansion project was approved and the ramp-up of ore production started in 2007. In 2011, the mining method

at Cuiabá changed from cut-and-fill to long hole; aiming more at productivity, selectivity and safe mining conditions.

The Cuiabá mine has reached a depth of 1,145m (ramp level at 18 Fonte Grande Sul (FGS)) with levels 12 to 21 of the Balancão and

Galinheiro orebodies being included in Cuiabá's production plan. Deep level exploration is currently taking place between level 21 and

level 24.

### GEOLOGY

Cuiabá mine has gold mineralisation associated with sulphides and quartz veins in 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.

Apparent intersections of thrust faults with tight isoclinal folds, in a ductile environment, tend to control the mineralisation structures.

The host rocks are primarily BIF and secondarily 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 at Cuiabá are as follows:

- normal limb: Fonte Grande Sul and Serrotinho; and

- overturned limb: Balancão, Galinheiro and Canta Galo.

### EXPLORATION

In 2014, 36,000m of drilling was completed, with underground drilling comprising almost 26,000m of this total.

Underground

exploration focused on two processes, Mineral Resource conversion and Mineral Resource addition.

For the Mineral Resource conversion, Galinheiro level 15 and Fonte Grande Sul level 16-18 were the main targets, while the Mineral Resource addition was focused on Serrotinho below level 17. In 2015, new Mineral Resource addition opportunities from underground are being evaluated, especially in satellites and secondary BIF orebodies, for example Galinheiro FW and Extensão (BIF). Surface drilling aims to confirm the continuity of the main orebodies (Fonte Grande Sul, Serrotinho, Galinheiro and Balancão) below level 21 (>1,500m depth) and therefore confirm the mine extension at depth. Deep drilling has been executed with two rigs which can reach depths of 2,600m (NQ) and 3,300m (HQ). In deep drilling, wedging and a directional core barrel have been applied to direct the drilling and control the natural deviation that affects the trajectory of the drill-hole as well as to drill deflections out of the parent holes. During 2014, exploration confirmed the continuity of Fonte Grande Sul to level 24 and Balancão to level 25. For 2015, planned exploration will continue to focus on Mineral Resource conversion and Mineral Resource addition. Underground drilling will primarily target the Fonte Grande Sul and Galinheiro FW orebodies. The deep-surface drilling programme will continue to explore below level 21, testing the down plunge continuity of the main mineralisation zones and improving their confidence level.

#### PROJECTS

In the near term, Cuiaba will increase plan confidence by achieving production stability and building flexibility through targeted production interventions and by attaining Ore Reserve and developed stope stocks targets. Operational effectiveness will be the foundation for the strategic approach. Currently, the mine team is busy reviewing the mine plan in order to meet the current cash generation needs looking to inclusion of Galinheiro and to maximise production from narrow veins, both near and within infrastructure.

#### AMERICAS

MINERAL RESOURCE

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

**AGA Mineração – Cuiabá**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

30 x 60

X

X

–

–

–

–

Indicated

30 x 60

X

X

–

–

–

–

Inferred

80 x 120

X

–

–

–

–

Grade/Ore

control

5 x 5

X

X

–

–

–

–

*Inclusive Mineral Resource*

**AGA Mineração – Cuiabá**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Main Deposits – Serrotinho*

Measured

0.38

16.01

6.01

0.19

Indicated

0.18

9.95

1.79

0.06

Inferred

1.09

9.93

10.83

0.35

Total

1.65

11.32

18.63

0.60

*Main Deposits – Fonte Grande Sul Deeps*

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

1.08

15.97

17.28

0.56

Total

1.08

15.97

17.28

0.56

*Main Deposits – Fonte Grande Sul*

Measured

0.88

7.05



6.18  
0.20  
Indicated  
0.79  
9.13  
7.26  
0.23  
Inferred  
3.21  
10.17  
32.65  
1.05  
Total  
4.88  
9.44  
46.09  
1.48  
*Narrow Veins – Galinheiro*  
Measured  
0.45  
9.59  
4.31  
0.14  
Indicated  
0.84  
8.14  
6.81  
0.22  
Inferred  
1.11  
6.95  
7.69  
0.25  
Total  
2.39  
7.86  
18.80  
0.60  
*Narrow Veins – Canta Galo*  
Measured  
0.12  
7.45  
0.93  
0.03  
Indicated  
0.27  
10.18  
2.73  
0.09  
Inferred  
0.20

10.69

2.12

0.07

Total

0.59

9.78

5.78

0.19

*Narrow Veins – Balancão*

Measured

0.40

8.15

3.29

0.11

Indicated

1.54

8.27

12.75

0.41

Inferred

0.89

10.68

9.48

0.30

Total

2.83

9.01

25.52

0.82

AMERICAS

continued

AGA Mineração – Cuiabá

Over the next five years, Cuiaba plans to optimise the orebody capability by targeting the narrow and satellite veins in conjunction

with the main orebodies at Cuiaba mine. Lamego mine will be integrated into Cuiabá plans as the mine looks to maximize orebody

capability by balancing selectivity against bulk mining.

In the long term, Cuiaba plans to maintain sustainable production by continuing to explore for and convert the Mineral Resource below

infrastructure and bring the full economic endowment to account.

The initiatives listed to achieve this vision is currently being structured, with detailed scope and plans. When complete, they will be

consolidated in a master plan to ensure integration between areas and disciplines throughout the execution process.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**150**

*Inclusive Mineral Resource*

**AGA Mineração – Cuiabá**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Secondary Areas – Sill Pillars*

Measured

1.76

10.45

18.41

0.59

Indicated

0.38

8.78

3.37

0.11

Inferred

0.74

10.71

7.89

0.25

Total

2.88

10.29

29.67

0.95

*Secondary Areas – satellite orebodies*

Measured

0.80

6.09

4.89

0.16

Indicated

0.17

6.78

1.15

0.04

Inferred

0.32

6.08

1.92

0.06

Total

1.29

6.18

7.96  
 0.26  
*Secondary Areas – Galinheiro Footwall*

Measured

–  
 –  
 –  
 –

Indicated

0.35  
 8.48  
 2.96  
 0.10

Inferred

0.25  
 8.91  
 2.19  
 0.07

Total

0.60  
 8.66  
 5.15  
 0.17

Cuiabá

Total

18.19  
 9.61  
 174.88  
 5.62

*Exclusive Mineral Resource*

**AGA Mineração – Cuiabá**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

3.22  
 9.96  
 32.07  
 1.03

Indicated

1.01  
 11.12  
 11.26  
 0.36

Inferred

8.87  
 10.37  
 92.05  
 2.96  
 Total  
 13.11  
 10.33  
 135.37  
 4.35

This Exclusive Mineral Resource is the Inferred Mineral Resource that is in the process of being upgraded with conversion drilling.

The Exclusive Mineral Resource is located below infrastructure, starting on level 17 (at Fonte Grande Sul and Serrotinho), level 15 (at

Galinheiro), between level 10 and corresponding sub-levels to level 14 as well as below level 16 (at Galinheiro Foot Wall), and between

levels 15-16 as well as below level 17 (at Balancão and Canta Galo). In addition, secondary areas consisting of old stopping panels and

satellite deposits are also included.

**ORE RESERVE**

*Ore Reserve*

**AGA Mineração – Cuiabá**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Main Deposits – Serrotinho*

Proved

0.24

10.97

2.68

0.09

Probable

0.14

7.01

0.97

0.03

Total

0.38

9.54

3.65

0.12

*Main Deposits – Fonte Grande Sul*

Proved

0.63

5.95

3.74

0.12

Probable

0.68

7.33

5.02

0.16

Total

1.31

6.67

8.75

0.28

*Narrow Veins – Galinheiro*

Proved

0.36

6.20

2.24

0.07

Probable

0.71

5.86

4.15

0.13

Total

1.07

5.97

6.39

0.21

AMERICAS

**151**

AMERICAS

continued

AGA Mineração – Cuiabá

*Ore Reserve continued*

**AGA Mineração – Cuiabá**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Narrow Veins – Canta Galo*

Proved

0.09

5.61

0.49

0.02

Probable

0.26

7.07

1.83

0.06

Total

0.35

6.70

2.33

0.07

*Narrow Veins – Balancão*

Proved

0.25

6.29

1.57

0.05

Probable

1.63

5.36

8.75

0.28

Total

1.88

5.48

10.32

0.33

*Secondary Areas – Galinheiro Footwall*

Proved

–

–

–

–  
 Probable  
 0.18  
 7.61  
 1.33  
 0.04  
 Total  
 0.18  
 7.61  
 1.33  
 0.04  
 Cuiabá  
 Total  
 5.17  
 6.34  
 32.77  
 1.05  
*Ore Reserve modifying factors*  
**AGA Mineração – Cuiabá**  
**Gold**  
**price**  
**Cut-off**  
**grade**  
**Stoping**  
**width**  
**Dilution**  
**MCF**  
**MetRF**  
**31 December 2014**  
**BRL/oz**  
**g/t Au**  
**cm**  
 %  
 %  
 %  
 Main Deposits – Serrotinho  
 2,801  
 4.17  
 600.0  
 22.6  
 94.5  
 93.3  
 Main Deposits – Fonte Grande Sul  
 2,801  
 4.17  
 600.0  
 9.2  
 94.5  
 93.3  
 Narrow Veins – Galinheiro  
 2,801



4.17  
 200.0  
 24.9  
 94.5  
 93.3  
 Narrow Veins – Canta Galo  
 2,801  
 4.17  
 200.0  
 24.1  
 94.5  
 93.3  
 Narrow Veins – Balancão  
 2,801  
 4.17  
 200.0  
 26.6  
 94.5  
 93.3  
 Secondary Areas – Galinheiro Footwall  
 2,801  
 4.17  
 500.0  
 13.1  
 94.5  
 93.3  
*Inferred Mineral Resource in business plan*  
**AGA Mineração – Cuiabá**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**  
**million**  
**g/t**  
**Tonnes**  
**Moz**  
**Comments**  
 Main Deposits – Serrotinho  
 0.06  
 5.05  
 0.30  
 0.01  
 Part of levels 17 and 18  
 Main Deposits – Fonte  
 Grande Sul Deeps  
 0.10  
 6.71  
 0.64  
 0.02  
 Part of level 17  
 Narrow Veins – Galinheiro

0.20

4.01

0.80

0.03

Extention area from level 12 to 14 and part of level 15

Narrow Veins – Canta Galo

0.08

5.67

0.47

0.01

Part of levels from 12 to 17

Narrow Veins – Balancão

0.16

5.39

0.88

0.03

Part of levels 15 and 17

Secondary Areas –

Galinheiro Footwall

0.03

7.99

0.25

0.01

Part of level 15

Total

0.63

5.29

3.34

0.11

According to the standard adopted by AngloGold Ashanti, the Inferred Mineral Resource is included for the purpose of defining the

business plan associated with an exploration plan but is not included as Ore Reserve. Modifying factors are applied and the resultant

Mineral Resource is then specified as potential Inferred Mineral Resource that can be converted into an Ore Reserve.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

**152**

COMPETENT PERSONS

**AGA Mineração – Cuiabá**

**Category**

**Competent person**

**Professional  
organisation**

**Membership  
number**

**Relevant  
experience**

**Qualification**

Mineral Resource

Rodrigo Martins

MAusIMM

311 050

10 years

BSc (Geology)

MSc (Geology)

Ore Reserve

Paulo Peruzzo

MAusIMM

312 703

25 years

BSc (Mining Engineering)

AMERICAS

**153**

## INTRODUCTION

Lamego is located in the north-western part of the Iron Quadrangle, close to the Cuiabá gold mine. The mine is located to the east of the city of Belo Horizonte, which is in the Minas Gerais State, in the south-eastern region of Brazil. The mining method is a combination of cut-and-fill and room-and-pillar, which comes from the need to leave pillars in stopes that have a large mining area, exceeding the 20-m span designed by the geotechnical studies. While this method permits selectivity, it has constraints in terms of productivity. Recently, detailed infill drilling provided information for a new mining method and currently the mine is considering a sub-level stoping or a 'long-blind-hole-stoping' bulk mining method.

## GEOLOGY

The gold mineralisation at Lamego is characterised by orebodies associated with two horizons of chemical sedimentary rocks: BIF and metachert (MCH), and also with shear zones containing abundant quartz veinlets. The proportions of these lithotypes vary substantially from one deposit to another. In the BIF, sulphide mineralisation is associated with gold, while in the MCH and quartz veins, the gold occurs either as native gold or in sulphides.

The mineralisation is characterised by sulphidation in the form of disseminated sulphide bands or as fracture filling and, more rarely, as massive sulphide hosted in BIF/MCH. Sulphide bands are rare in MCH. The plunge of the mineralised zones coincides with both the fold axis of the first two structural events and the mineral stretching lineation.

The Arco da Velha deposit is located on the eastern side of a large fold and extends for 250m along the strike. In the north-eastern portion, the mineralisation is concentrated in the MCH, while in the south-western portion it is concentrated in the BIF. Carbonaceous phyllite and chlorite-sericite schists occur in the hangingwall contact, while hydrothermally-altered meta-andesite occurs in the footwall.

The Cabeça de Pedra deposit is located in the hinge region of the large Lamego structure. The area which has shown the best economic potential contains BIF and MCH (80% of the area consists of BIF and the remaining 20% is MCH). The presence of faulting makes the stratigraphy complex in some areas. The carbonaceous phyllite and chlorite/sericite schists normally occur in the hangingwall and meta-andesites in the footwall.

Carruagem is the main deposit and it is located close to the junction of two fold limbs in the north-east portion of the major structure.

It is a boudinaged body with two large disruptions in the structure (pinch and swell), followed by eastward displacement. The gold mineralisation is mainly associated with hydrothermal zones within the BIF.

## EXPLORATION

In 2014, 22,000m of drilling, focusing on the Carruagem deposit, was undertaken. Surface drilling was focused on down plunge continuity from level 8 to 10, the results confirmed the continuity but with a different plunge than expected, showing a displacement of the ore in a N-S direction and high grade zones changing from the normal to inverse limb and vice-versa as it gets deeper.

For 2015, exploration will focus on accelerating the Mineral Resource conversion programme at Carruagem orebody below level 7.

A hangingwall drive will be developed to establish a better drilling position to cover the entire Carruagem strike extension.

In addition, a re-valuation will be done on the other orebodies aiming to define the real endowment potential, especially at Queimada and Cabeça de Pedra.

AMERICAS continued

AGA Mineração – Lamago

MINERAL RESOURCE AND ORE RESERVE REPORT 2014

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MINERAL RESOURCE

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

**AGA Mineração – Lamego**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

20 x 10

–

X

–

–

X

Grid spacing

10 x 12 at level 5.1

Indicated

125 x 25

–

X

–

–

–

–

Inferred

300 x 50

–

X

–

–

–

–

Grade/Ore

control

2 x 3

–

–

–

–

X

–

*Inclusive Mineral Resource*

**AGA Mineração – Lamego**

**Tonnes**

**Grade**

**Contained gold**

as at 31 December 2014

Category

million

g/t

Tonnes

Moz

*Carruagem*

Measured

2.01

5.96

11.97

0.38

Indicated

0.63

6.63

4.19

0.13

Inferred

1.04

5.36

5.56

0.18

Total

3.68

5.90

21.72

0.70

*Arco da Velha*

Measured

0.09

5.03

0.44

0.01

Indicated

0.28

4.24

1.20

0.04

Inferred

0.38

3.34

1.26

0.04

Total

0.75

3.88

2.90

0.09

*Cabeça de Pedra*

Measured

0.30

4.23  
1.27  
0.04  
Indicated  
1.12  
3.56  
4.00  
0.13  
Inferred  
0.62  
4.56  
2.81  
0.09  
Total  
2.04  
3.96  
8.07  
0.26  
*Secondary Areas – Queimada*  
Measured  
0.00  
6.10  
0.03  
0.00  
Indicated  
0.50  
5.53  
2.75  
0.09  
Inferred  
0.56  
5.39  
3.02  
0.10  
Total  
1.06  
5.46  
5.79  
0.19  
*Secondary Areas – Arco NE*  
Measured  
–  
–  
–  
–  
Indicated  
–  
–  
–  
–  
Inferred



0.74

3.26

2.40

0.08

Total

0.74

3.26

2.40

0.08

Lamego

Total

8.26

4.95

40.88

1.31

*Exclusive Mineral Resource*

**AGA Mineração – Lamego**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

1.65

5.82

9.63

0.31

Indicated

1.84

4.73

8.70

0.28

Inferred

2.90

4.45

12.92

0.42

Total

6.40

4.89

31.25

1.00

AMERICAS

**155**

ORE RESERVE

*Ore Reserve*

**AGA Mineração – Lamego**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Carruagem*

Proved

0.71

4.39

3.13

0.10

Probable

0.33

4.72

1.55

0.05

Total

1.04

4.50

4.68

0.15

*Arco da Velha*

Proved

0.05

3.43

0.16

0.00

Probable

0.12

3.47

0.43

0.01

Total

0.17

3.46

0.59

0.02

*Cabeça de Pedra*

Proved

0.05

3.80

0.21

0.01

Probable

0.37  
 2.87  
 1.07  
 0.03  
 Total  
 0.43  
 2.99  
 1.28  
 0.04  
*Secondary Areas – Queimada*

Proved  
 0.00  
 4.77  
 0.02  
 0.00  
 Probable  
 0.25  
 4.46  
 1.11  
 0.04

Total  
 0.25  
 4.46  
 1.13  
 0.04  
 Lamego  
 Total  
 1.89  
 4.06  
 7.67  
 0.25

*Ore Reserve modifying factors*

**AGA Mineração – Lamego**

**Gold**

**price**

**Cut-off**

**grade**

**Stoping**

**width**

**Dilution**

**MCF**

**MetRF**

**31 December 2014**

**BRL/oz**

**g/t Au**

**cm**

**%**

**%**

**%**

**Carruagem**

**2,801**

2.52  
 1,500.0  
 23.2  
 94.5  
 93.3  
 Arco da Velha  
 2,801  
 2.26  
 350.0  
 26.8  
 94.5  
 93.3  
 Cabeça de Pedra  
 2,801  
 2.52  
 350.0  
 13.3  
 94.5  
 93.3  
 Secondary Areas – Queimada  
 2,801  
 2.52  
 350.0  
 16.6  
 94.5  
 93.3

*Inferred Mineral Resource in business plan*

**AGA Mineração – Lamego**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Carruagem

0.29

4.40

1.27

0.04

Below level 05

Cabeça de Pedra

0.21

3.32

0.68

0.02

Below level 04

Secondary Areas –

Queimada

0.32

3.84

1.22

0.04

Level 04, 05, 06, 07 and 08.

Total

0.81

3.91

3.18

0.10

Inferred Mineral Resource is not converted into an Ore Reserve, but is included in the business plan.

AMERICAS continued

AGA Mineração – Lamego

MINERAL RESOURCE AND ORE RESERVE REPORT **2014**

**156**

COMPETENT PERSONS  
**AGA Mineração – Lamego**

**Category**

**Competent person**

**Professional  
organisation**

**Membership  
number**

**Relevant  
experience**

**Qualification**

Mineral Resource

Rodrigo Martins

MAusIMM

311 050

10 years

BSc (Geology)

MSc (Geology)

Ore Reserve

Alexandre Heberle

MAusIMM

317 105

9 years

BSc (Mining Engineering)

AMERICAS

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AMERICAS continued

AGA Mineração – Nova Lima Sul

#### INTRODUCTION

The Nova Lima Sul project is located in the western portion of the Rio das Velhas greenstone belt, and all the exploration targets are within a 16km radius of the Queiroz metallurgical plant. Nova Lima Sul exploration targets comprise mothballed operations (Raposos underground mine), old mines (Mina Grande, Morro da Glória, Bicalho, Faria, Bela Fama), as well as old prospects (Luzia da Mota, Limoeiro) and several old surface workings (Saboeiro Rasgão, Urubu and Luzia's Mina Grande). The main exploration goal is to add to and convert the Mineral Resource in order to fill the Queiroz plant's spare capacity.

#### GEOLOGY

The Nova Lima Sul targets are situated in the south-western portion of the Iron Quadrangle in the state of Minas Gerais, in Brazil. The area is located in the volcanic sedimentary sequence of the Nova Lima Group (Rio das Velhas Supergroup), within the Rio das Velhas greenstone belt.

The Nova Lima Group hosts the main gold mines and mineral occurrences in the Iron Quadrangle and consists of a basal tholeiitic-komatiitic volcanic unit with abundant chemical sedimentary rocks, which is overlain by a volcanoclastic unit with associated felsic

volcanic rocks. This is in turn overlain by an upper clastic unit. The mineralised deposits in the Rio das Velhas greenstone belt are structurally controlled and are associated with hydrothermal alterations along D2 thrust shear zones, on a regional scale. The

mineralisation is epigenetic and the most common mineralisation styles at Nova Lima Sul are massive, banded and disseminated

sulphides hosted in BIF and lapa seca (albitised hydrothermal rocks).

Mapped deposit dimensions vary in thickness from around 0.5m to 20m and can be more than 5,000m in length (down plunge).

The plunge is defined by the stretching lineation and it is parallel to the fold axis of the first two regional deformation events.

#### Geology of Raposos

The Raposos sequence is interpreted as a ductile thrust that occurred during the first deformation event. The main mineralised area is

associated with an anticline of the same event. The stratigraphic sequence, repeated by folds, has ultramafics at the base, overlain by

komatiitic basalts, basalts and andesites with layers of BIF. Pelites and metavolcanoclastic occur at the top of the sequence. The BIF

is oxide facies (magnetite and quartz), with carbonatisation in the mineralised areas.

The mineralisation is primarily located in the BIF and surrounded by concentric hydrothermal alteration zones consisting of sericitisation, carbonatisation and chloritisation.

#### Geology of Morro da Glória

In the Morro da Glória area the rocks consist of komatiitic ultramafics, graphite phyllite, felsic metavolcanoclastic associated with

metapelites and several layers of BIF.

The macro structures at Raposos and Morro da Glória are anticlines and the mineralisation is associated with these folds and shear

zones, surrounded by concentric hydrothermal alteration zones consisting of sericitisation, carbonisation 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 altered schists.

#### EXPLORATION

In 2014 no exploration was completed in the Nova Lima Sul region.

#### MINERAL RESOURCE

The Nova Lima Sul project currently does not have any declared Ore Reserve and the Exclusive and Inclusive Mineral Resource numbers are therefore identical.

#### MINERAL RESOURCE AND ORE RESERVE REPORT 2014

**158**



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

**AGA Mineração – Nova Lima Sul**

**Type of drilling**

**Category**

**Spacing**

m (-x-)

**Diamond**

RC

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

15 x 15,

30 x 30

–

X

–

–

X

Surface channel sampling

and DD plus 34 level

open at Raposos mine

Indicated

30 x 30,

60 x 60

–

X

–

–

X

Surface channels and

DD, underground

drilling plus 34 level

open

Inferred

60 x 60,

100 x 100

–

X

–

–

X

Grade/Ore

control

3 x 3

–

–

–

–

X

*Inclusive Mineral Resource*

**AGA Mineração – Nova Lima Sul**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Morro da Glória*

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

1.26

6.52

8.21

0.26

Total

1.26

6.52

8.21

0.26

*Luzia da Mota*

Measured

0.35

2.72

0.96

0.03

Indicated

0.56

2.75

1.54

0.05

Inferred

0.63

3.03

1.90

0.06

Total

1.54

2.86

4.41  
0.14  
*Raposos*  
Measured  
0.18  
7.01  
1.29  
0.04

Indicated  
0.41  
6.85  
2.80  
0.09

Inferred  
2.25  
6.44  
14.50  
0.47

Total  
2.84  
6.53  
18.59  
0.60

Nova Lima  
Total  
5.65  
5.53  
31.21  
1.00

COMPETENT PERSONS

**AGA Mineração – Nova Lima Sul**

**Category**

**Competent person**

**Professional  
organisation**

**Membership  
number**

**Relevant  
experience**

**Qualification**

Mineral Resource

Rodrigo Martins

MAusIMM

311 050

10 years

BSc (Geology)

MSc (Geology)

AMERICAS

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## INTRODUCTION

Since May 2012, Serra Grande has been wholly owned by AngloGold Ashanti and controls, or has an interest or agreements in, approximately 48,207ha in and around the Crixás mining district in the north-western area of the Goiás in central Brazil. Serra Grande is located 5km from the city of Crixás and 420km from the Brazilian capital, Brasília. The Serra Grande operation comprises three underground mines, namely Mina III (Orebody IV), Mina Nova (including Pequizão and Ingá orebodies) and Palmeiras, and one open pit, which represents the outcrop of mineralised Superior (massive sulphides) and Inferior (quartz vein with visible gold) zones. Three mining methods are used in underground mines: cut and fill, sub-level stoping and room and pillar. The processing circuit is equipped with grinding, leaching, filtration, precipitation and smelting facilities, and is currently able to process 1.28Mtpa.

## GEOLOGY

The Serra Grande gold deposits are hosted in a typical greenstone belt sequence. The host rocks belong to the Crixás Group of the Upper Archean in the Crixás greenstone belt. Gold mineralisation is associated with metasediments and metavolcanics rocks from the Ribeirão das Antas and Rio Vermelho formations respectively. The Crixás greenstone belt is surrounded by granitic gneiss terrains from the Anta and Caiamar complexes and metasedimentary rocks from the Santa Terezinha Group, which is part of the magmatic arc of Goiás. Two main deformation events have been identified in the region. The first event is a thrust event (east over west, called D1) and develops an irregular thrust ramp geometry. This event was responsible for stacking and inverting the stratigraphic sequence. The second event (D2) was the thrusting of the Santa Terezinha sequence over the Crixás greenstone belt, folding the rocks (F2) and generating the structures that control the gold mineralisation, generally parallel to the fold axis. The mineralisation is associated with quartz veins and massive to disseminated sulphides in metasedimentary, metavolcaniclastic rocks and metabasalts, with differing degrees of hydrothermal alteration. The mineralisation have been separated into four main domains called structures (named Structure II, III, IV and V and Palmeiras), and the mineralisation occurs as stacked lenses, generally concentrated in the same high deformation positions (with folds and disruptions) in the structures. Geometry of the mineralised deposits is typically complex, with pinch and swell, folded and boudinage shapes, dipping from 10° to 25° and with greatest continuity along north-west-plunging structures (azimuth true 290). In Structure II the mineralisation is arsenopyrite associated with quartz as veinlets in carbonaceous metapelite. In Structure III, the mineralisation is located in quartz veins that are hosted in carbonaceous schists, representing the highest gold grades (>8g/t, with free gold), as seen in Mina III (Inferior zone) and Ingá. This geological structure contains the highest grade in the Mineral Resource at Serra Grande and currently efforts are concentrated on exploration and ramp development to access the rich part of the Mineral Resource of the Ingá orebody.

This structure is also associated with massive and disseminated sulphides (mainly pyrrhotite and arsenopyrite) that occur in a sequence of hydrothermally-altered schists, commonly named superior zones. The mineralisation of Structure IV comprises quartz veinlets and disseminated sulphide (pyrrhotite) hosted in graphite schists as at Pequizão. The mineralised zones are hosted in sericite and chlorite schists with massive and disseminated sulphide concentrated in folded zones. The ore shoots plunge to the north-west and the dips vary between 6° and 35°. The Palmeiras structure is associated with hydrothermal alteration of metabasalts, with sericite, chlorite, carbonate and massive sulphides (pyrrhotite).

AMERICAS continued

Serra Grande

MINERAL RESOURCE AND ORE RESERVE REPORT 2014

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## EXPLORATION

A fast-track exploration programme at Serra Grande has added 1.75Moz of new Inferred Mineral Resource to the Serra Grande

portfolio in the period between 2011 and 2014. Its underlying strategy has been to add new high-grade Mineral Resource, such as

Inga and Crixás North, as well as to extend the life of mine of current orebodies such as Pequizão, Palmeiras, Orebody IV and Mina

Nova. In 2014, 35,000m of drilling were completed.

New regional targets are being generated through geochemistry, geophysics and geological mapping. The main prospects are the

south and north vectors of the greenstone belt with targets that are focussed on the high grade quartz vein mineralisation.

## PROJECTS

During 2014, the exploration campaign confirmed the geological potential of the Inga orebody and a scoping/conceptual project was

put in place to identify the mining opportunities for this orebody.

A positive mining study to access the orebody was concluded in 2014, resulting in the decision to begin the development of access

from the current infrastructure of Mina III (orebody IV). By the end of 2014, 270m of development from a total of 1,300 linear metres

had been completed.

In 2014, a review of historic information was undertaken regarding the possibility of bringing the Mina III mine back into production.

In 2015, the incorporation of this ground into the Ore Reserve will be investigated.

## AMERICAS

MINERAL RESOURCE

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

**Serra Grande**

**Type of drilling**

**Category**

**Spacing**

**m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

10 x 10,

20 x 10

–

–

X

X

X

Other: percussion

drilling

Indicated

10 x 20,

20 x 50

–

X

–

X

–

–

Inferred

50 x 50,

50 x 100,

100 x 50

–

X

–

–

–

–

Grade/Ore control

2 x 2

–

–

–

X

–

–

*Inclusive Mineral Resource*

**Serra Grande**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Mina Nova*

Measured

3.01

3.49

10.50

0.34

Indicated

1.12

3.22

3.59

0.12

Inferred

2.17

3.39

7.36

0.24

Total

6.29

3.41

21.45

0.69

*Mina III*

Measured

1.82

4.57

8.31

0.27

Indicated

1.73

4.72

8.15

0.26

Inferred

1.79

5.28

9.44

0.30

Total

5.33

4.86

25.89



0.83  
*Palmeiras*  
Measured  
0.32  
6.90  
2.21  
0.07  
Indicated  
0.29  
5.38  
1.57  
0.05  
Inferred  
0.94  
4.45  
4.16  
0.13  
Total  
1.55  
5.13  
7.93  
0.26  
*Pequizao*  
Measured  
0.65  
5.04  
3.30  
0.11  
Indicated  
1.14  
4.92  
5.63  
0.18  
Inferred  
4.77  
3.51  
16.74  
0.54  
Total  
6.56  
3.91  
25.66  
0.83  
*Cajueiro*  
Measured  
—  
—  
—  
—  
Indicated  
—

—  
—  
—  
Inferred  
1.22  
2.89  
3.52  
0.11  
Total  
1.22  
2.89  
3.52  
0.11  
*Inga*  
Measured  
—  
—  
—  
—  
Indicated  
—  
—  
—  
—  
Inferred  
2.19  
7.36  
16.11  
0.52  
Total  
2.19  
7.36  
16.11  
0.52  
*Open pit*  
Measured  
0.11  
2.80  
0.31  
0.01  
Indicated  
0.35  
3.06  
1.08  
0.03  
Inferred  
0.13  
1.88  
0.24  
0.01  
Total

0.59

2.76

1.62

0.05

*Total stockpiles*

Measured

0.29

1.79

0.52

0.02

Indicated

—

—

—

—

Inferred

—

—

—

—

Total

0.29

1.79

0.52

0.02

Serra Grande

Total

24.02

4.28

102.70

3.30

AMERICAS continued

Serra Grande

MINERAL RESOURCE AND ORE RESERVE REPORT 2014

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*Exclusive Mineral Resource*

**Serra Grande**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

0.82

5.60

4.62

0.15

Indicated

2.30

3.79

8.69

0.28

Inferred

12.30

4.27

52.54

1.69

Total

15.42

4.27

65.85

2.12

The Exclusive Mineral Resource is located very close to the Serra Grande site, mostly inside the operational mine footprint. The Mineral

Resource can be divided into three categories:

- Inferred Mineral Resource of operating mines – every year, this is partially upgraded through infill drilling based on the production plan. For 2014, this represented 51% of the total;
- that portion of the Mineral Resource that is not economically feasible for 2015. This represents 15% of the Exclusive Mineral Resource; and
- that portion of the Mineral Resource that requires economic studies. This represents around 34% of the Exclusive Mineral Resource.

The exception to this is the Cajueiro deposit, located 10km from the Serra Grande site.

*Mineral Resource below Infrastructure*

**Serra Grande**

**Tonnes**

**Grade**

**Contained gold**

as at 31 December 2014

Category

million

g/t

Tonnes

Moz

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

11.97

4.51

54.04

1.74

Total

11.97

4.51

54.04

1.74

AMERICAS

2.99

-0.15

0.00

0.00

0.23

0.00

0.24

0.00

3.30

Ounces (millions)

3.35

3.30

3.25

3.20

3.15

3.10

3.05

3.00

2.95

2.90

2.85

2.80

2.75

-  
-  
-  
-  
-  
-  
-  
-  
-  
-  
-  
-  
-

2013  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
disposal

2014

**Serra Grande**

Mineral Resource reconciliation: 2013 to 2014

0.57  
-0.15  
0.03  
0.01  
0.00  
0.04  
0.00  
0.00  
0.50  
Ounces  
(millions)  
0.58  
0.56  
0.54  
0.52  
0.50  
0.48  
0.46  
0.44  
0.42  
0.40  
0.38

-

—  
—  
—  
—  
—  
—  
—  
—  
—  
—

2013

Other

2014

**Serra Grande**

Ore Reserve reconciliation: 2013 to 2014

Deple-  
tion

Model  
change

Change in  
economics

New  
ounces

from  
projects

Scope  
change

Acquisition/  
disposal

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AMERICAS continued

Serra Grande

ORE RESERVE

*Ore Reserve*

**Serra Grande**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Mina Nova*

Proved

1.22

2.39

2.90

0.09

Probable

0.74

2.69

1.99

0.06

Total

1.96

2.50

4.89

0.16

*Mina III*

Proved

0.52

3.10

1.61

0.05

Probable

0.81

3.22

2.62

0.08

Total

1.33

3.17

4.23

0.14

*Palmeiras*

Proved

0.15

3.23

0.50



0.02  
Probable  
0.18  
3.01  
0.54  
0.02  
Total  
0.33  
3.11  
1.04  
0.03  
*Pequizao*  
Proved  
0.54  
3.58  
1.95  
0.06  
Probable  
0.64  
3.78  
2.41  
0.08  
Total  
1.18  
3.69  
4.36  
0.14  
*Open pit*  
Proved  
—  
—  
—  
—  
Probable  
0.16  
2.66  
0.44  
0.01  
Total  
0.16  
2.66  
0.44  
0.01  
*Total stockpiles*  
Proved  
0.29  
1.79  
0.52  
0.02  
Probable  
—

–  
 –  
 –  
 Total  
 0.29  
 1.79  
 0.52  
 0.02  
 Serra Grande  
 Total  
 5.26  
 2.94  
 15.47  
 0.50  
*Ore Reserve below infrastructure*

**Serra Grande**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**

**Category**  
**million**  
**g/t**

**Tonnes**  
**Moz**

Proved

0.01

2.47

0.02

0.00

Probable

0.64

3.38

2.16

0.07

Total

0.65

3.37

2.17

0.07

Around 24% of the reported Ore Reserve is below infrastructure. These ounces are categorised as Probable Ore Reserve from the bottom of sub-level stoping panels that have at least the top ore drift opened and sampled.

*Inferred Mineral Resource in business plan*

The Inferred Mineral Resource is not included in the Ore Reserve for Serra Grande. However, in the current business plan, around 6%

of the ounces to be produced in 2015 will be from the Inferred Mineral Resource. These ounces will be upgraded to Indicated once

in-fill drilling and level developments are in place.

**MINERAL RESOURCE AND ORE RESERVE REPORT 2014**

*Ore Reserve modifying factors*

**Serra Grande**

**Gold**

**price**

**Cut-off**

**grade**

**Stoping**

**width**

**Dilution**

**Dilution**

**MCF**

**MetRF**

**31 December 2014**

**Mine**

**BRL/oz**

**g/t Au**

**cm**

*%*

**g/t**

*%*

*%*

Mina Nova

2,801

2.03

350.0

15.0

0.03

95.0

90.0

Mina III

2,801

2.03

220.0

15.0

0.03

95.0

93.0

Palmeiras

2,801

2.03

220.0

15.0

0.03

95.0

93.0

Pequiza

2,801

2.03

220.0

15.0

0.03

95.0  
 94.0  
 Open pit  
 2,801  
 1.73  
 250.0  
 7.0  
 0.03  
 95.0  
 92.0  
**COMPETENT PERSONS**  
**Serra Grande**  
**Category**  
**Competent person**  
**Professional**  
**organisation**  
**Membership**  
**number**  
**Relevant**  
**experience**  
**Qualification**  
 Mineral Resource  
 and Ore Reserve  
 Diogo Afonso Costa  
 MAusIMM  
 311 574  
 12 years  
 BSc (Geology)  
 0  
 1  
 2  
 3  
 4  
 5  
 6  
 7  
 8  
 9  
 10  
 Tonnes above  
 cut-off (millions)  
 Average grade  
 above cut-off  
 (g/t)  
 Cut-off grade (g/t)  
 12  
 11  
 10  
 9  
 8  
 7



5.6  
5.4  
5.2  
5.0  
4.8  
4.6  
4.4  
4.2  
24  
22  
20  
18  
16  
14  
12  
10  
8

Tonnes above cut-off

Ave grade above cut-off

**Serra Grande**

Grade tonnage curve – Underground (metric)

AMERICAS

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AMERICAS continued

Colombia

## COUNTRY OVERVIEW

Systematic regional greenfields exploration has been undertaken by AngloGold Ashanti and its joint-venture partners (B2Gold,

Glencore International and Mineros S.A.) in Colombia since 2004. AngloGold Ashanti consolidated its tenement position from roughly

100,000km in 2009 to 13,855km

2

at the end of 2013 through a variety of structures, including joint-ventures and the relinquishing of non-prospective areas.

At Gramalote joint-venture (AngloGold Ashanti, 51% and B2Gold, 49%), AngloGold Ashanti is currently responsible for the management

of the project in the pre-feasibility level.

At the wholly-owned La Colosa project, brownfields exploration drilling resumed after area adjustment permitting for new platforms

was successfully completed. Pre-feasibility development studies have focused on infrastructure site facility scenarios. AngloGold

Ashanti secured regional district scale opportunities surrounding La Colosa and is continuing with regional targeting of similar gold-rich

porphyry mineralisation.

Nuevo Chaquiro is a significant new copper-gold porphyry-style mineralised system that is located within the Quebradona Project,

which is a joint-venture between AngloGold Ashanti 89.75% and B2Gold 10.25%. B2Gold is not participating in the exploration

expenditure and its interest in the project is being diluted. The Quebradona Project is situated in the Middle Cauca region of Colombia,

in the Department of Antioquia, 60km south-west of Medellin. Nuevo Chaquiro, is one of five known porphyry centres on the property

and has been the focus of exploration activities since the beginning of 2012.

## MINERAL RESOURCE ESTIMATION

Gramalote

At Gramalote, results from about 103,744m of drilling (74,652m at Gramalote Central and 11,249m at the Trinidad area and 17,843m

at Monjas West area) were used to support the estimation of the Mineral Resource. Mineral Resource modelling was performed using

a geological model based on alteration, vein abundance and gold grade. Assay gold grades composited to 2m down-hole intervals

and outliers are capped based on the distribution observations using probability plots by each estimation domains. The geostatistical

technique of UC was used to estimate block grades and quantify the effect of selective mining.

## MINERAL RESOURCE AND ORE RESERVE REPORT 2014

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La Colosa

At La Colosa, some 135,252m of drilling supported the estimation of an Indicated Mineral Resource. Gold grades were estimated using Ordinary Kriging. Kriging was performed into a block size of 50m x 50m x 10m using lithological domains (wireframes) in a grade-based mineralisation envelope and also for the waste surrounding the mineralisation. All available geological drill-holes, surface sampling and mapping information was validated for use in the modelling process.

Quebradona

At Quebradona, just over 48,600m of drilling was used to estimate the Inferred Mineral Resource. Copper, gold, silver, molybdenum and sulphur grades were estimated using Ordinary Kriging into panel sizes of 80 x 80 x 20m. Grades were estimated within grade-based three-dimensional wireframe boundaries based on copper and gold grades, with separate domains for molybdenum. Drilling data was composited to 6m down-hole lengths prior to estimation, and extreme values were capped to reduce their influence on the estimated metal. All available drilling and sampling information was validated for use in the modelling process.

AMERICAS

**COLOMBIA**

Projects

0

200km

100km

Ibagué

Cali

Quibdó

Medellin

Bogotá

**La Colosa**

**Gramalote**

**Quebradona**

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## INTRODUCTION

The Gramalote property is located on the eastern flank of the Cordillera Central near the towns of Providencia and San Jose del Nus in the municipality of San Roque, north-west of the Department of Antioquia. It is approximately 230km north-west of the Colombian capital, Bogotá is the country capital with a population of about 8 million and 124km north-east of Medellin, the regional capital of the Antioquia Department, with a population of more than two million people. The municipalities of San Roque and Maceo are within 20km of the project site.

## GEOLOGY

The Gramalote gold deposit is hosted in the late-Cretaceous Antioquia Batholith. This intrusive covers an area of approximately 7,200km<sup>2</sup>, and constitutes the core of the Central Cordillera at the Antioquia Department. The Antioquia Batholith is composed of 92% tonalite and granodiorite, with the remaining 8% comprising two subordinate rock types: quartz-monzonite and gabbro.

Gramalote is interpreted to be an intrusive-hosted structurally-controlled stockwork gold and silver deposit. Gold mineralisation is controlled by north-east/south-west trending shear zones and north-northwest to south-southeast trending shear extensional zones

affecting the tonalites and granodiorites of the Antioquia Batholith. Mineralisation is associated with stockwork veining, particularly

quartz with fine-pyrite veins, quartz-carbonate veins, and quartz with coarse pyrite veins.

The deposit is completely hosted by medium- to coarse-grained biotite ±hornblende tonalite and granodiorite. Detailed lithology,

alteration and structural mapping within the Gramalote Ridge area emphasizes the homogeneity of the tonalite intrusive with more than

95% of the rock mass comprised of tonalite-granodiorite. Alteration assemblages related to mineralisation are variable and are closely

linked to the structural evolution of the area.

The Gramalote Project comprises three distinct deposits, Central Gramalote, Trinidad and Monjas West within a greater mineral

tenement block of some 35,000 hectares exclusively retained under licence by the joint-venture.

The main zone of mineralisation defined by drilling has been traced along strike to the north-east for approximately 1,100m.

Mineralisation occurs within several zones that periodically coalesce both along strike and down-dip. Zones vary in width from tens

of metres to 200m in true width, with vertical to sub-vertical dips to the south-southeast. The Trinidad mineralised zone is located

approximately 3km north-northwest of the Gramalote Ridge. Monjas West is located 2.6km along the westward strike extension of

the Gramalote Ridge zone. The style of alteration and mineralisation of both satellite deposits is similar to the Gramalote Ridge area.

In all, 464 drill-holes (plus an underground tunnel) were completed at Gramalote Ridge and the nearby exploration targets, totalling

130,783m. AngloGold Ashanti drilled a total of 46 diamond drill-holes (13,063m) and completed a 240m horizontal exploration

tunnel in 2006 and 2007. B2Gold drilled an additional 89 diamond drill-holes (29,978m), of which 66 were in the Gramalote Ridge

area (21,967m), and took additional channel samples in the tunnel in 2008. Gramalote Colombia Limited drilled a total of 82,092m distributed among 253 diamond drill-holes and 5,650m of RC distributed in 76 holes drilled in Gramalote Hill on a drilling pattern of 12.5m x 12.5m as a grade control trial.

Based upon regional and property scale mapping, Gramalote Ridge and surrounding zones of interest are located between two

WNW-trending macro-scale curved lineaments which splay off the Palestina fault to the east and transect the Antioquia Batholith.

These include the Nus River lineament and the El Socorro lineament. Differential movement along the Nus and El Socorro lineaments

is thought to have generated north-northwest, north-south and north-east-striking tensional dilation within the tonalite, reflected in the

formation of stockwork style as well as sheeted quartz and quartz carbonate veins.

#### EXPLORATION

Exploration strategy during 2014 was focused on Gramalote central low-grade material, where a drilling programme aimed to convert

some of the Inferred into Indicated Mineral Resource was carried out.

Definition drilling is preferentially drilled at 100m x 100m and in-fill drilled at 50m x 50m.

AMERICAS continued

Gramalote

MINERAL RESOURCE AND ORE RESERVE REPORT 2014

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Based on lithological continuity, the similar structural setting and mineralisation style and the presence of historical artisanal mining extending along the entire area, further exploration potential in the district is still open. There is a large tenement position that has only been explored over less than 15% of its area. Gramalote Colombia Limited is advancing a comprehensive exploration programme led by geophysical and geochemical surveys to assist in defining exploration targets that are expected to confirm the existing Mineral Resource and expand the known mineralisation endowment. In 2014, as at the end of October, about 4,000 soils sampling were taken in areas adjacent to Gramalote in order to define new targets.

**MINERAL RESOURCE**

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

**Gramalote**

**Type of drilling**

**Category**

**Spacing**

**m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

25 x 25

-

X

-

-

-

-

Indicated

50 x 50

-

X

-

-

-

-

Inferred

100 x 100

-

X

-

-

-

-

Grade/Ore

control

12 x 12

-  
-  
X  
-  
-

Test grade control pattern completed to confirm the uniform conditioning (UC) parameters.

*Inclusive Mineral Resource*

**Gramalote**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Main Zone*

Measured

14.80

0.79

11.62

0.37

Indicated

50.52

0.59

29.75

0.96

Inferred

64.74

0.43

27.58

0.89

Total

130.06

0.53

68.95

2.22

*Trinidad*

Measured

-  
-  
-  
-  
Indicated  
-  
-  
-

—  
Inferred  
45.50  
0.41  
18.72  
0.60  
Total  
45.50  
0.41  
18.72  
0.60  
*Monjas West*  
Measured

—  
—  
—  
—

Indicated  
2.38  
0.55  
1.32  
0.04

Inferred  
12.00  
0.59  
7.07  
0.23  
Total  
14.38  
0.58  
8.39  
0.27

Gramalote  
Total  
189.94  
0.51  
96.06  
3.09

All the Mineral Resource is exclusive and below infrastructure.

AMERICAS

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AMERICAS continued

Gramalote

COMPETENT PERSONS

**Gramalote**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

and Ore Reserve

Claudio Devaux

MAusIMM

315 689

27 years

BSc (Geology)

3.09

0.00

0.00

0.00

0.00

0.00

0.00

0.00

3.09

Ounces (millions)

3.10

3.08

3.06

–

–

–

2013

Deple-

tion

Gold

price

Cost

Explo-

ration

Metho-

dology

Other

Acquisition/

disposal

2014

**Gramalote**

Mineral Resource reconciliation: 2013 to 2014

0.00  
0.25  
0.50  
0.75  
1.00  
1.25  
1.50  
1.75  
2.00

Tonnes

above cut-off  
(millions)

Average grade

above cut-off (g/t)

Cut-off grade (g/t)

3.0  
2.5  
2.0  
1.5  
1.0  
0.5  
0.0  
350  
300  
250  
200  
150  
100  
50  
0

Tonnes above cut-off

Ave grade above cut-off

**Gramalote**

Grade tonnage curve – Surface (metric)

–  
–  
–  
–  
–  
–  
–

MINERAL RESOURCE AND ORE RESERVE REPORT 2014

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AMERICAS continued

La Colosa

## INTRODUCTION

The project is located 150km west of Colombia's capital city, Bogota, and 30km west of the major town of Ibague, which is the capital of the Tolima department and the location of local government entities monitoring the project.

Mineralisation at La Colosa was discovered by AngloGold Ashanti's Colombian greenfields exploration team in 2006.

## Drilling

commenced in 2007 and a conceptual study was completed in 2008. Economic studies began in September 2008 and continue.

The project is wholly owned by AngloGold Ashanti.

## GEOLOGY

The La Colosa project is centered on a late Miocene (8.1Ma) multiphase diorite porphyry gold complex intruded into reduced

Paleozoic metasedimentary rocks. Although the porphyry system is generally copper-poor, a 0.1 – 0.2% Cu anomaly associated with

Mo>150 ppm occurs laterally and at depth. The highest grade gold mineralisation is closely associated with a suite of early porphyry

intrusions/breccias with potassic and sodic-calcic alteration, high intensity of gold-sulphide veinlets and sulphur values generally

exceeding 2.5%. The multiphase diorite porphyry gold complex can be divided into three phases (early, intermineral and late) and

is elliptical in shape with a known maximum north-south axis of at least 1,200m. The complex strikes N10W with a dip of 75° east-

north-east, the contacts are mostly structurally bound. Intermineral and late dacitic dykes extend both north and south into the foliated

schistose hornfels.

Extension drilling better defined the porphyry contacts and high-grade mineralisation along structural corridors.

Additional upside for

mineralisation occurs at the north-west extension of the porphyry and structurally controlled along the La Colosa creek fault complex.

San Antonio is a separate much smaller porphyry centre 1.2km south of La Colosa and characterised by hydrothermal and intrusion

breccias associated with intermineral diorites and a late dacite stock.

## Alteration and mineralisation

The paragenesis of the main alteration starts with pervasive sodic-calcic alteration overprinted by potassic alteration and in turn,

cut by a sodic-calcic event. Potassic alteration, biotite and subordinate K-feldspar, occurs mainly as a pervasive replacement of the

porphyries, especially the early phases. The second sodic-calcic alteration clearly overprints the potassic assemblage and is largely

confined to irregular, centimetre-scale patches and well-defined veinlets.

The early and intermineral porphyry appear to have been altered and mineralised at the time of their intrusion, since there is scant

evidence of veinlets crossing intrusive contacts. The gold content generally declines from early to intermineral diorite and is lowest for

late dacite porphyry.

The veinlets at La Colosa appear to span the potassic to sodic-calcic alteration events. The earliest veinlets are composed of quartz,

biotite, K-feldspar, albite, actinolite, magnetite, pyrite, pyrrhotite plus minor chalcopyrite and molybdenite. The veinlets may be either



quartz or magnetite dominant, quartz-rich veinlets have the characteristics of both A- and B-types in porphyry copper systems.

The main control of the bulk gold grade in the porphyry complex is the intrusive phase in which the mineralisation is hosted. Early

intrusive phases present higher and more-consistent gold grades (average >0.9g/t). The inter-mineral diorite has average gold grades

of less than 0.7g/t, the late dacite phase generally has only >0.3g/t gold grades close to the contact with early diorite phases.

The limited high-grade zone in the north-east forming the >1.5g/t envelope is centered on north-south-striking, steeply-dipping

eastward faults within a >100m wide zone of deformation. Hydrothermal alteration indicative for elevated gold grades vectors towards

a weak sericite-illite-carbonate overprint.

Gold deportment and geometallurgy

Geometallurgical studies related to comminution modelling focused on obtaining hardness parameters. This metallurgical data has

been correlated with multi-element assay and spectral mineralogical data to obtain proxies for metallurgical parameters.

#### EXPLORATION

The La Colosa Mineral Resource is located in a forest reserve as defined by the Colombian Government. An area of 6.39ha has been

temporarily extracted within a boundary of 515ha allowing for drill platforms, access and camp sites.

AMERICAS

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AMERICAS continued

La Colosa

The current exploration strategy is to define an Indicated Mineral Resource, centered on the conceptual pit shell and extend the known high-grade mineralisation. The average drill spacing of 100m x 100m has been reviewed for Mineral Resource classification.

Conversion to Indicated Mineral Resource has been allowed for sectors with drill spacing of 75m x 75m.

A total of 135,252m (375 holes) has been drilled to date with the year-on-year increase related to mineralisation found at the north-west extension of high-grade mineralisation.

PROJECTS

A conceptual study has been completed to evaluate if there is a sufficiently attractive investment opportunity to establish a mining

operation at the La Colosa Deposit for a reduced size project located “on mountain” in the Colombian Andes. The project has been

changed to a phased approach to minimize risks with a substantially smaller project footprint and lower capital cost requirements.

It includes the assessment of alternative approaches for mine plan development, the evaluation of plant and key infrastructure locations,

concepts of waste and tailings deposition methods, high-level risk assessments, and the selection of alternatives for further evaluation

during the pre-feasibility study. The project charter, implementation plan, and budget for the pre-feasibility study have been developed.

This conceptual study has been a collaborative work between the La Colosa project team, AngloGold Ashanti Colombia (AGAC), and

external consultants (e.g. HATCH, Arcadis, Golder, HMTV, iC Consultants).

The drilling plan for 2015 will focus on:

- Hydrogeological drilling to evaluate hydrodynamic containment at the tailings site facility; and
- 

Geotechnical drilling for starter dam of the tailings storage facility and waste rock co-disposal site.

The obtained drill core will be used for multi-purpose tasks such as construction material, condemnation and structural geographical studies.

A temporary forest extraction permit has been received allowing for initial geotechnical and hydrogeological infrastructure drilling of

“Phase 1 On the Mountain option”.

MINERAL RESOURCE

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

**La Colosa**

**Type of drilling**

**Category**

**Spacing m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

–

–

-  
-  
-  
-

Indicated  
75 x 75

-  
X  
-  
-  
-

Inferred  
100 x 100

-  
X  
-  
-  
-

Grade/Ore  
control

-  
-  
-  
-  
-

*Inclusive Mineral Resource*

**La Colosa**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Open pit*

Measured

-  
-  
-  
-

Indicated  
940.23

0.84

791.29

25.44

Inferred

314.34

0.76

239.64

7.70

La Colosa

Total

1,254.56

0.82

1,030.93

33.15

The La Colosa Mineral Resource is reported at a cut-off grade of 0.3g/t. The mineralisation has been classified as an Indicated and an Inferred Mineral Resource on the basis of kriging variance related to drill spacing. All the Mineral Resource is exclusive and below infrastructure.

**MINERAL RESOURCE AND ORE RESERVE REPORT 2014**

**172**

AMERICAS

COMPETENT PERSONS

**La Colosa**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

Rudolf Jahoda

MAusIMM

990 544

23 years

MSc (Mining Geology)

PhD (Geology)

0.00 0.25 0.50 0.75 1.00 1.25 1.50

2.00

1.75

2.25 2.50 2.75 3.00

Tonnes

above

cut-off

(millions)

Average grade

above cut-off (g/t)

Cut-off grade (g/t)

4.0

3.5

3.0

2.5

2.0

1.5

1.0

0.5

0.0

2,000

1,800

1,600

1,400

1,200

1,000

800

600

400

200

0

Tonnes above cut-off

Ave grade above cut-off

**La Colosa**

Grade tonnage curve – Surface (metric)

–  
–  
–  
–  
–  
–  
–  
–  
–  
–  
–  
28.05  
0.00  
0.00  
0.00  
5.09  
0.00  
0.00  
0.00  
33.15

Ounces (millions)

34  
33  
32  
31  
30  
29  
28  
27

–  
–  
–  
–  
–  
–  
–  
–

2013

Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other

Acquisition/  
disposal  
2014

**La Colosa**

Mineral Resource reconciliation: 2013 to 2014

**173**

AMERICAS continued

Quebradona

## INTRODUCTION

The Quebradona project is situated in the Middle C uca region of Colombia, in the Department of Antioquia, 60km south-west of

Medellin. Nuevo Chaquiro, a significant copper-gold porphyry-style mineralised system, is one of five known porphyry centres on the

property and has been the focus of exploration activities since the beginning of 2012.

## GEOLOGY

The Nuevo Chaquiro deposit consists of Miocene-aged diorite and quartz diorite dykes and thin vertical stocks intruding a thick section

of andesitic tuffs and volcanoclastics of the Miocene-aged Combia Formation which fills a large pull-apart basin within the prospective

middle Cauca belt of central Colombia. Depth to mineralisation from the surface is around 250–400m. Typical copper porphyry

alteration zonation is evident with a high temperature, K-silicate central zone (biotite, magnetite, chalcopyrite, and molybdenite) which

trends into an overlying sericitic alteration zone (muscovite, chlorite, quartz, pyrite, ±tourmaline) surrounded by more distal propylitic

alteration (chlorite, epidote, illite, carbonate). There is also an inner core of calcic-potassic alteration featuring biotite, actinolite,

epidote, and anhydrite with lesser copper, gold and molybdenum values. The mineralised zone is characterised by fine stockworks,

disseminations and veinlets of quartz, magnetite, pyrite, chalcopyrite and molybdenite. To date, the intrusive complex can be divided

into an eastern early intrusive centre which contains abundant >0.6% copper and gold mineralisation, and a central area comprised

of abundant intra-mineral diorite and quartz diorites, of which a classic ore shell of lower-grade mineralisation (>0.3% copper) appears

draped over the intrusions. The mineralisation also contains considerable amounts of by-product molybdenum and silver.

## EXPLORATION

Drilling is ongoing at the project, focusing on infilling and extending the known mineralisation, to support further studies on the viability

of the project.

The maiden Mineral Resource for Nuevo Chaquiro was reported in the third quarter of 2014. For further details please refer to table 1

reported as per JORC 2012 in the third quarter of 2014 exploration update to be found at [www.anglogoldashanti.com](http://www.anglogoldashanti.com).

**MINERAL RESOURCE AND ORE RESERVE REPORT 2014**

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AMERICAS

MINERAL RESOURCE

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

**Quebradona**

**Type of drilling**

**Category**

**Spacing**

**m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

–

–

–

–

–

–

Indicated

–

–

–

–

–

–

Inferred

150 x 150

–

X

–

–

–

DD from surface

Grade/Ore

control

–

–

–

–

–

*Inclusive Mineral Resource*

**Quebradona**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**  
**g/t**  
**Tonnes**  
**Moz**  
*Main Deposit*  
 Measured

—  
 —  
 —  
 —

Indicated

—  
 —  
 —  
 —

Inferred

542.58

0.32

171.19

5.50

Quebradona

Total

542.58

0.32

171.19

5.50

The Mineral Resource was tested for and found to have reasonable and realistic prospects for eventual economic extraction.

It represents a realistic inventory of mineralisation within a conceptual underground mine design, based on two lifts using a combination of block caving and panel caving. The development levels at 1,000mRL and 1,400mRL, were assumed to be potentially available to mine at some point in the future. Therefore all of the Inferred Mineral Resource above the 1,000mRL within the mine design is included in the estimate and since non-selective methods are used, no cut-off can be applied. Additional potentially mineralised material is included in the mine design, but is not included as part of the reported Mineral Resource due to lower confidence in the grade estimate as a result of limited drill-hole data in those portions of the deposit.

The drill-holes have been drilled in a variety of directions and so the spacing between holes is not uniform. The drill-hole spacing is between 100m to 200m within the Mineral Resource, becoming wider at depth and at some of the margins of the mineralisation.

All the Mineral Resource is exclusive and below infrastructure.

0.00  
 0.00  
 0.00  
 0.00  
 5.50  
 0.00  
 0.00

0.00  
5.50  
Ounces (millions)

6  
5  
4  
3  
2  
1  
0

—  
—  
—  
—  
—  
—

2013  
Deple-  
tion  
Gold  
price  
Cost  
Explo-  
ration  
Metho-  
dology  
Other  
Acquisition/  
disposal

2014

**Quebradona**

Mineral Resource reconciliation: 2013 to 2014

**175**

*Inclusive Mineral Resource by-product – Copper*

**Quebradona**

**Tonnes**

**Grade**

**Contained copper**

**as at 31 December 2014**

**Category**

**million**

**% Cu**

**Tonnes million**

**Pounds million**

Measured

–

–

–

–

Indicated

–

–

–

–

Inferred

542.58

0.65

3.55

7,821.50

Total

542.58

0.65

3.55

7,821.50

*Inclusive Mineral Resource by-product – Silver*

**Quebradona**

**Tonnes**

**Grade**

**Contained Silver**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

–

–

–

–

Indicated

–

–

–

–  
 Inferred  
 542.58  
 4.38  
 2,378.21  
 76.46  
 Total  
 542.58  
 4.38  
 2,378.21  
 76.46

*Inclusive Mineral Resource by-product – Molybdenum*

**Quebradona**

**Tonnes**

**Grade**

**Contained molybdenum**

**as at 31 December 2014**

**Category**

**million**

**ppm**

**Kilotonnes**

**Pounds million**

Measured

–  
 –  
 –  
 –  
 Indicated

–  
 –  
 –  
 –

Inferred  
 542.58  
 116  
 62.89  
 138.66  
 Total  
 542.58  
 116  
 62.89  
 138.66

**COMPETENT PERSONS**

**Quebradona**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**

**experience**

**Qualification**

Mineral Resource

Mark Kent

MAusIMM

203 631

17 years

BSc Hons (Geology)

MSc (Mineral Resource Evaluation)

AMERICAS continued

Quebradona

MINERAL RESOURCE AND ORE RESERVE REPORT **2014**

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AMERICAS continued  
United States of America  
COUNTRY OVERVIEW

AngloGold Ashanti currently operates one mine in the United States of America near Cripple Creek, Colorado. The Cresson mine is operated by the Cripple Creek and Victor Gold Mining Company (CC&V), a wholly-owned subsidiary of AngloGold Ashanti Ltd.

CC&V currently controls over 85% of the patented claims within the district and 100% of the land containing the 2014 Mineral

Resource. The Ore Reserve and Mineral Resource are stated on a 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 (MIK) and the primary variable that

is estimated is the recoverable gold.

A block model is generated that estimates pyrite and oxide amounts. This is used to interpolate block-specific coefficients for

input into the metallurgical recovery function. The method for calculating nominal shake leach values is a regression technique

using geologically-logged categorical variables. Updated drill-hole information is used throughout. The drill-hole database is

thoroughly reviewed before each Mineral Resource exercise and the estimation domains are based on lithology and structural

fabrics for each deposit.

#### ORE RESERVE ESTIMATION

The Ore Reserve pit designs were based on Lerchs-Grossmann (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

bench height of 35ft (10.7m) except South Cresson, which is based on a height of 20ft (6.1m).

Operations

1,000km

0

New York

Chicago

Denver

Los Angeles

Washington DC

#### UNITED STATES

#### OF AMERICA

Cripple Creek

& Victor

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AMERICAS continued

CC&V

## INTRODUCTION

The mining operations at CC&V are located in central Colorado, in the United States, approximately 25km east of Colorado Springs.

The mining district is located between the communities of Cripple Creek, to the north-west, and Victor, in the south.

The district is known for its historic underground mining activities which produced nearly 20Moz of gold from narrow, high-grade,

sheeted vein systems that contain gold-telluride mineralisation.

Currently, the mining activities are large, low-grade open pit operations that use shovels and haul trucks to efficiently move as much

material as possible. CC&V has produced nearly 4.5Moz of gold since 1995.

## GEOLOGY

The dominant geological feature of the district is a 34Ma to 28Ma diatreme-intrusive that erupted through Precambrian rocks. The

diatreme-intrusive complex is 6.4km long, 3.2km wide and consists of diatremal breccia that has been intruded by stocks, dykes and

discordant breccias. Diatremal breccia lithologies include breccias composed exclusively of volcanic, Precambrian or sedimentary

material or any combination of the three. Early intrusions are predominantly within these alkaline phonolite-phonotephrite series of

rocks and were followed by later lamprophyres. All rocks have undergone minor structural deformation and a complex history of

hydrothermal alteration. Gold mineralisation, dated between 27.8Ma and 26.6Ma, is hosted in all rock types and constrained in veins.

The mineralisation can also be disseminated or can occur in structurally-controlled deposits. Primary ore minerals include microscopic

native gold, native gold with pyrite and gold tellurides. Silver is present but has minimal economic importance.

## EXPLORATION

Exploration activities during 2014 focused on two different programmes:

- upgrading of the Mineral Resource to allow for conversion to Ore Reserve for the low-grade, heap leach operations; and

- drill testing of high-grade zones that lie outside the pit designs, but could be mined by underground methods. Nearly 31,000m were drilled during 2014, which included approximately 29,000m of RC and 2,000m of DD.

## PROJECTS

The exploration activities were conducted under the Mine Life Extension-2 (MLE-2) project as well as the Underground project.

MLE-2 is evaluating the extension of the mine life by adding low-grade, heap leach tonnes to the Ore Reserve with the construction

of a second Valley Leach Facility (VLF) and a plant to process high-grade zones of mineralisation that are intersected during the open

pit mining activity. The underground programme is exploring for an additional Mineral Resource that is suitable for mining underground

to supplement plant feed.

## MINERAL RESOURCE

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

### **Cripple Creek and Victor**

#### **Type of drilling**

#### **Category**



**Spacing**

**m (-x-)**

**Diamond**

**RC**

**Blasthole**

**Channel**

**Other**

**Comments**

Measured

30 x 30

-

X

X

-

-

RC primary, DD core used for confirmation of RC, metallurgical testing and geotechnical high wall design.

Indicated

45 x 45

-

X

X

-

-

Inferred

75 x 75

-

X

X

-

-

Grade/Ore control

5 x 6

-

X

X

X

-

Blasthole drilling primary, RC and DD included. Angle RC implemented in 2013 for selective mining of mill ore.

MINERAL RESOURCE AND ORE RESERVE REPORT

**2014**

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AMERICAS

**179**

*Inclusive Mineral Resource*  
**Cripple Creek and Victor**  
**Tonnes**  
**Grade**  
**Contained gold**  
**as at 31 December 2014**  
**Category**  
**million**  
**g/t**  
**Tonnes**  
**Moz**  
*Cresson*  
 Measured  
 83.82  
 0.66  
 55.46  
 1.78  
 Indicated  
 64.99  
 0.61  
 39.88  
 1.28  
 Inferred  
 16.71  
 0.62  
 10.29  
 0.33  
 Total  
 165.51  
 0.64  
 105.63  
 3.40  
*South Cresson*  
 Measured  
 20.77  
 0.80  
 16.70  
 0.54  
 Indicated  
 7.27  
 0.99  
 7.17  
 0.23  
 Inferred  
 2.19  
 1.38  
 3.02  
 0.10  
 Total  
 30.23  
 0.89

26.89

0.86

*Wild Horse*

Measured

5.81

0.63

3.63

0.12

Indicated

2.87

0.65

1.86

0.06

Inferred

0.80

0.53

0.43

0.01

Total

9.48

0.62

5.92

0.19

*Wild Horse extension*

Measured

27.91

1.25

34.92

1.12

Indicated

10.18

0.89

9.06

0.29

Inferred

0.77

0.52

0.40

0.01

Total

38.86

1.14

44.39

1.43

*Altman*

Measured

17.22

1.06

18.32

0.59

Indicated

11.66

1.02

11.86

0.38

Inferred

4.67

1.13

5.25

0.17

Total

33.55

1.06

35.43

1.14

*Globe hill*

Measured

42.00

0.60

24.99

0.80

Indicated

33.82

0.61

20.56

0.66

Inferred

9.04

0.75

6.76

0.22

Total

84.87

0.62

52.32

1.68

*Ironclad*

Measured

11.93

0.57

6.80

0.22

Indicated

9.13

0.50

4.53

0.15

Inferred

5.06

0.50

2.55

0.08

Total

26.12

0.53

13.88

0.45

*Schist island*

Measured

25.47

0.69

17.66

0.57

Indicated

11.78

0.59

6.98

0.22

Inferred

1.56

0.46

0.72

0.02

Total

38.81

0.65

25.35

0.82

*Stockpiles*

Measured

1.20

1.22

1.47

0.05

Indicated

—

—

—

—

Inferred

—

—

—

—

Total

1.20

1.22

1.47

0.05

Cripple Creek and Victor

Total

428.63

0.73

311.28

10.01

AMERICAS continued

CC&V

MINERAL RESOURCE AND ORE RESERVE REPORT **2014**

**180**

AMERICAS

*Exclusive Mineral Resource*

**Cripple Creek and Victor**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

Measured

128.42

0.74

95.32

3.06

Indicated

93.27

0.68

63.10

2.03

Inferred

30.25

0.71

21.56

0.69

Total

251.94

0.71

179.98

5.79

The Exclusive Mineral Resource material lies immediately outside the designed shells that hold the Ore Reserve. The mineralised

zones are generally extensions of those seen within the Ore Reserve shells and additional drilling will allow for some of the Mineral

Resource to be converted to Ore Reserve.

10.84

-0.47

0.00

-0.34

0.06

-0.07

-0.00

0.00

10.01

Ounces (millions)

10.9

10.8

10.7

10.6



10,5  
10.4  
10.3  
10.2  
10.1  
10.0  
9.9

-

-

-

-

-

-

-

-

-

-

2013

Deple-  
tion

Gold  
price

Cost  
Explo-  
ration

Metho-  
dology

Other

Acquisition/  
disposal

2014

**Cripple Creek and Victor**

Mineral Resource reconciliation: 2013 to 2014

-

-

-

-

-

-

-

-

-

-

4.71

-0.36

0.10

-0.49

0.01

0.00

0.00

0.00

3.96

Ounces (millions)

4.8

4.7

4.6

4.5

4.4

4.3

4.2

4.1

4.0

3.9

3.8

2013

Other

2014

**Cripple Creek and Victor**

Ore Reserve reconciliation: 2013 to 2014

Deple-  
tion

Model  
change

Change in  
economics

New  
ounces

from  
projects

Scope  
change

Acquisition/  
disposal

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ORE RESERVE

*Ore Reserve*

**Cripple Creek and Victor**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**Category**

**million**

**g/t**

**Tonnes**

**Moz**

*Cresson*

Proved

13.05

1.01

13.15

0.42

Probable

5.57

0.98

5.46

0.18

Total

18.61

1.00

18.61

0.60

*South Cresson*

Proved

14.88

0.79

11.79

0.38

Probable

4.64

1.15

5.34

0.17

Total

19.53

0.88

17.13

0.55

*Wild Horse extension*

Proved

22.52

1.15

25.99

0.84

Probable

8.39  
0.82  
6.88  
0.22  
Total  
30.91  
1.06  
32.87  
1.06  
*Globe hill*  
Proved  
37.29  
0.53  
19.70  
0.63  
Probable  
31.44  
0.51  
15.94  
0.51  
Total  
68.73  
0.52  
35.64  
1.15  
*Schist island*  
Proved  
18.77  
0.67  
12.53  
0.40  
Probable  
8.03  
0.60  
4.82  
0.16  
Total  
26.80  
0.65  
17.35  
0.56  
*Stockpiles*  
Proved  
1.20  
1.22  
1.47  
0.05  
Probable  
—  
—  
—

–  
 Total  
 1.20  
 1.22  
 1.47  
 0.05  
 Cripple Creek and Victor  
 Total  
 165.78  
 0.74  
 123.07  
 3.96

*Inferred Mineral Resource in business plan*

The Inferred Mineral Resource in the business plan is approximately 6.6% of the Proved and Probable Ore Reserve tonnes and 6.8%

of the Proved and Probable Ore Reserve ounces of gold.

The Inferred Mineral Resource is not used in the optimisation process for the Ore Reserve shells. The Inferred Mineral Resource

is generally located near the surface of pits that have not yet been mined. Some of this material is also found at the bottom of the

Ore Reserve pits where the drill density is not as quite as uniform as in other areas.

*Ore Reserve modifying factors*

**Cripple Creek and Victor**

**Gold**

**price**

**Cut-off**

**grade**

**Dilution**

**% RMF**

**% RMF**

**% MRF**

**MCF**

**MetRF**

**31 December 2014**

**US\$/oz**

**g/t Au**

**%**

**(based on**

**tonnes)**

**(based**

**on g/t)**

**(based**

**on g/t)**

**%**

**%**

**Cresson**

1,100

0.23

7.4

100.0

98.2

94.4  
 100.0  
 53.0\*  
 South Cresson  
 1,100  
 0.23  
 —  
 100.0  
 100.0  
 100.0  
 100.0  
 64.1\*  
 Wild Horse Extension  
 1,100  
 0.23  
 1.3  
 96.7  
 94.6  
 99.5  
 100.0  
 68.1\*  
 Globe Hill  
 1,100  
 0.23  
 —  
 100.0  
 100.0  
 100.0  
 100.0  
 70.7\*  
 Schist Island  
 1,100  
 0.23  
 —  
 100.0  
 100.0  
 100.0  
 100.0  
 58.3\*  
 Stockpiles  
 1,100  
 0.23  
 —  
 100.0  
 100.0  
 100.0  
 100.0  
 83.2\*\*

*All ore control, plant and Mineral Resource model numbers use recoverable grade.*

*\* Recovery based on pit average.*

*\*\* Recovery based on stockpile average.*

AMERICAS continued

CC&V

MINERAL RESOURCE AND ORE RESERVE REPORT **2014**

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AMERICAS

*Inferred Mineral Resource in business plan*

**Cripple Creek and Victor**

**Tonnes**

**Grade**

**Contained gold**

**as at 31 December 2014**

**million**

**g/t**

**Tonnes**

**Moz**

**Comments**

Cresson

0.14

1.19

0.16

0.01

South Cresson

2.19

1.38

3.02

0.10

Wild Horse extension

0.39

0.53

0.21

0.01

Globe hill

7.06

0.55

3.89

0.13

Schist island

1.14

0.52

0.59

0.02

Total

10.92

0.72

7.87

0.25

COMPETENT PERSONS

**Cripple Creek and Victor**

**Category**

**Competent person**

**Professional**

**organisation**

**Membership**

**number**

**Relevant**



**experience**

**Qualification**

Mineral Resource

Tim Brown

MAusIMM

226 857

28 years

BSc (Geology)

MSc (Geology)

Ore Reserve

Greg Gibson

SME 4134135 RM

11 years

BSc (Mining Engineering)

MSc (Mining Engineering)

0.0

0.2

0.4

0.8

0.6

1.0

1.2

1.4

1.6

Tonnes above

cut-off (millions)

Average

grade

above

cut-off (g/t)

Cut-off grade (g/t)

6

5

4

3

2

1

0

500

450

400

350

300

250

200

150

100

50

0

Tonnes above cut-off

Ave grade above cut-off

**Cripple Creek and Victor**

Grade tonnage curve – Surface (metric)

–  
–  
–  
–  
–  
–  
–  
–

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Definitions

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Glossary of terms

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Abbreviations

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Administrative information

for professional

organisations

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Administrative information

WORKING

TOWARDS

VALUE

The creation of

shareholder value is a

key aim, this section

provides information on

our shareholders, share

price performance and

other related matters.

ADMINISTRATIVE INFORMATION

CAPTION: Safety is our top priority when it

comes to the mining of gold

MINERAL RESOURCE AND ORE RESERVE REPORT 2014

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## DEFINITIONS

### ADMINISTRATIVE INFORMATION

#### MINERAL RESOURCE

The JORC Code, 2012 edition, definition of a Mineral Resource is as follows:

A 'Mineral Resource' is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such

form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location,

quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or

interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in

order of increasing geological confidence, into Inferred, Indicated and Measured categories.

All reports of Mineral Resources must satisfy the requirement that there are reasonable prospects for eventual economic extraction

(i.e. more likely than not), regardless of the classification of the Mineral Resource. Portions of a deposit that do not have reasonable

prospects for eventual economic extraction are not included in a Mineral Resource.

The Mineral Resource is estimated using all drilling and sampling information along with a detailed geological model.

The geological models are based on various combinations-of-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 relevant class of gold deposits.

The grade estimation for each deposit has been developed over the life of the mine and is constantly reviewed in terms of grade control

information and reconciliation with the metallurgical plant. In general, the deep South African mines utilise a process of Compound Log

Normal Macro Co-Kriging for the estimation of the Mineral Resource, while the open pits and shallow underground mines generally use

recoverable Mineral Resource models, estimated using Uniform Conditioning or Multiple Indicator Kriging.

In order to comply with the economic requirement of the definition of Mineral Resource, all AngloGold Ashanti Mineral Resources

are constrained at an upside gold price, with all other parameters being kept the same as used for estimation of the Ore Reserve. In

the underground gold mines, scoping studies are conducted on all coherent blocks of ground that lie above the calculated Mineral

Resource cut-off. These studies include all cost and capital requirements to access the block. In the case of open pit operations,

pit optimisations are conducted at the Mineral Resource gold price and all material outside these shells is excluded from the Mineral

Resource, unless it is potentially mineable from underground.

It is the opinion of AngloGold Ashanti that the Mineral Resource represents a realistic view of an upside potential to the Ore Reserve.

In interpreting the Mineral Resource it is critical to factor in the following:

- The Mineral Resource is quoted *in situ* and has not been corrected for dilution, mining losses or recovery;

- The Mineral Resource includes a high percentage of Inferred material, which, following further exploration drilling may be converted to an Indicated or Measured Mineral Resource; and

- Many of the areas lying in the exclusive Mineral Resource are currently being actively drilled and are the subject of economic and technical studies. It can, however, not be assumed at this stage that the company has intent to mine these areas. Mineral Resource classification is based on the '15% Rule'. A Measured Mineral Resource should be expected to be within 15% of the quarterly metal estimate at least 90% of the time, while for an Indicated Mineral Resource estimate the annual metal estimate should be within 15% of the metal estimated at least 90% of the time. For an Inferred Mineral Resource the annual error may for 90% of the time, be greater than 15%. The process and methodology of classification are at the discretion of the Competent Person and involves expressing the '15% Rule' as a required level of information, in tangible terms the spacing of the drill-hole or tunnel spacing in a particular deposit. Techniques such as conditional simulation or even an empirical reconciliation-based approach are employed. However, all operations are responsible for demonstrating, through reconciliation, that their classification system conforms to the 15% rule set out above.

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The Inferred Mineral Resource category is intended to cover situations in which a mineral concentration or occurrence has been identified and limited measurements and sampling have been completed, but in which the data are insufficient to allow the geological or grade continuity to be interpreted with confidence. Due to the uncertainty that may be attached to some Inferred Mineral Resources, it cannot be assumed that all or part of an Inferred Mineral Resource will necessarily be upgraded to an Indicated or Measured Mineral Resource after continued exploration.

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 pit shell/mine design and the Mineral Resource pit shell. This material will become economic if the gold price increases; and
- Mineral Resource where the technical studies to engineer an Ore Reserve have not yet been completed.

#### ORE RESERVE

The JORC Code, 2012 edition, definition of an Ore Reserve is as follows:

An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The reference point at which Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a

clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves. In the underground operations, the Ore Reserve is based on a full mine design and in the case of open pits on a pit optimisation

followed by a final pit design. The Ore Reserve is reported according to tonnage, mean grade(s), and contained metal inclusive of mining dilution, mining ore-losses and mine call factors. These modifying factors are based on measurements, rather than estimates.

Tonnage and grade estimates for surface stockpile materials that meet Ore Reserve criteria are itemised separately.

Only the Ore Reserve included for treatment in the business plan production schedule is considered in the Ore Reserve statement.

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.

DEFINITIONS continued

MINERAL RESOURCE AND ORE RESERVE REPORT 2014

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## GLOSSARY OF TERMS

### ADMINISTRATIVE INFORMATION

#### ALL TERMS

**Branded Ironstone Formation (BIF):** A chemically formed iron-rich sedimentary rock.

**By-products:** Any potentially economic or saleable products that emanate from the core process of producing gold, including silver, uranium, copper, molybdenum and sulphuric acid.

**Calc-silicate rock:** A metamorphic rock consisting mainly of calcium-bearing silicates such as diopside and wollastonite, often 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 ore with cyanide in agitated tanks and adsorbed on to activated carbon granules at the same time (i.e. when cyanide is introduced in the leach tank, there is already activated carbon in the tank and there is no distinction between leach and adsorption stages). 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 ore with cyanide in agitated tanks. The leached slurry then passes into the CIP circuit where activated carbon granules are mixed with the slurry and gold is adsorbed on to the activated carbon. The gold-loaded carbon is separated from the slurry and treated in an elution circuit to remove the gold.

**Comminution:** The crushing and grinding of ore to make gold available for physical or chemical separation. (See also "Milling").

**Contained gold:** The total gold content (tonnes multiplied by grade) of the material being described.

**Cut-off grade (COG) – surface mines:** The minimum grade at which a unit of ore will be mined to achieve the desired economic outcome.

**Depletion:** The decrease in quantity of ore in a deposit or property resulting from extraction or production.

**Development:** The process of accessing a deposit through shafts and/or tunnelling in underground mining operations.

**Electro-winning:** A process of recovering gold from solution by means of electrolytic chemical reaction into a form that can be smelted easily into gold bars.

**Elution:** Recovery of the gold from the activated carbon into solution before zinc precipitation or electro-winning.

**Feasibility study:** A comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The results of the



study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a pre-feasibility study (JORC 2012).

Flotation: Concentration of gold and gold-hosting minerals into a small mass by various techniques (e.g. collectors, frothers, agitation, air-flow) that collectively enhance the buoyancy of the target minerals, relative to unwanted gangue, for recovery into an over-flowing froth phase.

Full grade ore (FGO): 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 grams per metric tonne (g/t), or ounces per short ton of ore (oz/t).

Indicated Mineral Resource: That part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill-holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve (JORC 2012).

Inferred Mineral Resource: That part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques

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from locations such as outcrops, trenches, pits, workings and drill-holes. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration (JORC 2012).

**Leaching:** Dissolution of gold from crushed or milled material, including reclaimed slime, prior to adsorption on to activated carbon or direct zinc precipitation.

**Life of mine (LOM):** Number of years that the operation is planning to mine and treat ore, as taken from the current mine plan.

**Marginal ore (MO):** 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.

**Measured Mineral Resource:** That part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill-holes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve (JORC 2012).

**Metallurgical plant:** A processing plant designed to treat ore and extract gold (and in some cases often valuable by-products).

**Milling:** A process of reducing broken ore to a size at which concentrating can be undertaken (See also 'Comminution').

**Mine call factor (MCF):** The ratio, expressed as a percentage, of the total quantity of recovered and unrecovered mineral product after processing with the amount estimated in the ore based on sampling. The ratio of contained gold delivered to the metallurgical plant divided by the estimated contained gold of ore mined based on sampling.

**Metallurgical recovery factor (MetRF):** A measure of the efficiency in extracting gold from the ore deposit.

**Mineral deposit:** A mineral deposit is a concentration (or occurrence) of material of possible economic interest in or on the earth's crust.

**Mineral Reserve:** 'Ore Reserve' is preferred under the JORC Code but 'Mineral Reserve' is in common use in other countries

and reporting codes (i.e. SAMREC) and is generally accepted and regarded as synonymous.

**Mining recovery factor (MRF):** This factor reflects a mining efficiency factor relating the recovery of material during the mining process and is the variance between the tonnes called for in the mining design and what the plant receives. It is expressed in both a grade and tonnage number.

**Modifying Factors:** Considerations used to convert Mineral Resource to Ore Reserve. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

**Net present value (NPV):** The difference between the present value of cash inflows and the present value of cash outflows.

**Ounce (oz) (troy):** Imperial measure of mass specifically used for precious metals and still the standard measure of mass in the gold industry. A kilogram is equal to 32.1507 troy 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 formed when a change in solution chemical conditions results in conversion of some pre-dissolved ions into solid state.

**Preliminary feasibility study (pre-feasibility study):**

A comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Competent Person, acting reasonably, to determine if all or part of the Mineral Resource may be converted to an Ore Reserve at the time of reporting. A pre-feasibility study is at a lower confidence level than a feasibility study (JORC 2012).

GLOSSARY OF TERMS continued

MINERAL RESOURCE AND ORE RESERVE REPORT 2014

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## ADMINISTRATIVE INFORMATION

**Probable Ore Reserve:** The economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Ore Reserve is lower than that applying to a Proved Ore Reserve. A Probable Ore Reserve has a lower level of confidence than a Proved Ore Reserve but is of sufficient quality to serve as the basis for a decision on the development of the deposit (JORC2012).

**Proved Ore Reserve:** The economically mineable part of a Measured Mineral Resource. A Proved Ore Reserve implies a high degree of confidence in the Modifying Factors (JORC2012).

**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 horizon, sometimes a conglomerate band that may contain economic levels of gold. Reef can also be any significant or thick gold bearing quartz vein.

**Refining:** The final purification process of a metal or mineral to a saleable form.

**Region:** Defines the operational management divisions within AngloGold Ashanti, namely South Africa, Continental Africa (DRC, Ghana, Guinea, Mali and Tanzania), Australasia (Australia) and the Americas (Argentina, Brazil, Colombia and the United States of America).

**Rehabilitation:** The process of returning disturbed land to a stable, productive or self-sustaining condition requiring no ongoing maintenance to meet the post-mining land use objectives and taking into account beneficial uses of the site and surrounding land. Rehabilitation objectives are generally defined in environmental permits but are typically amended during the operational phase of projects through stakeholder engagement processes to ensure post mining land uses are congruent with surrounding and regional land use plans.

Rehabilitation methods can vary by location owing to the extent of disturbance and geo-climatic factors and include, among others, the processes of Remediation, Revegetation and Restoration, to address issues such as soil, ground and surface water, contamination, soil erosion and revegetation.

**Resource modification factor (RMF):** This factor is applied when there is an historic reconciliation discrepancy in the Resource model. For example between the Resource Model tonnage and the Grade Control Model tonnage. It is expressed in both a grade and tonnage number.

**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 precipitate from electro-winning or zinc precipitation is further separated from impurities.

SMU: The smallest unit that can be mined at a particular operation with the equipment available at that site, reflecting the intended or proposed mining selectively.

Stay-in-business capital: Capital expenditure to maintain existing production assets. This includes replacement of vehicles, plant and machinery, Ore Reserve development and capital expenditure related to safety, health and the environment.

Stope: Underground excavation where the mineralised deposit is extracted.

Stoping: The process of excavating ore underground.

Stripping ratio: The ratio of waste tonnes to ore tonnes mined calculated as total tonnes mined less ore tonnes mined divided by ore tonnes mined.

Tailings: Finely ground rock of low residual value from which valuable minerals have been extracted.

Tailings storage facilities: Dam facilities designed to store discarded tailings.

Tonne: Used in metric statistics. Equal to 1,000 kilograms (the International System Units (SI) mass unit).

Tonnage: Quantity of material measured in tonnes.

Waste: Material that contains insufficient mineralisation for consideration for future treatment and, as such, is discarded.

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ABBREVIATIONS

°  
Degrees  
km  
Kilometres  
,  
Minutes  
LIB  
Long inclined borehole  
\$  
United States dollars  
LOM  
Life of mine  
3D  
Three-dimensional space  
M or m  
Metre or million, depending on the context  
AC  
Aircore drilling  
m<sup>2</sup>  
Square metre  
Ag  
Silver  
MCF  
Mine call factor  
AGA  
AngloGold Ashanti  
MetRF  
Metallurgical Recovery Factor  
AGK  
Ashanti Goldfields Kilo  
Mlb  
Million pounds  
ARS  
Argentine peso  
Mo  
Molybdenum  
ASX  
Australian Securities Exchange  
Moz  
Million ounces  
Au  
Contained gold  
MRF  
Mining Recovery Factor  
AUD  
Australian dollars  
mRL  
Metres relative level  
Avg./Ave.

Average  
Mt  
Million tonnes (metric)  
BIF  
Banded Ironstone Formation  
Mtpa  
Million tonnes per annum  
BRL  
Brazilian real  
MWS  
Mine Waste Solutions  
capex  
Capital expenditure  
NPV  
Net present value  
CdS  
Córrego do Sítio  
oz  
Ounces (troy)  
CET  
University of Western Australia's Centre for  
Exploration Targeting  
PFZ  
Pretorius Fault Zone  
CLR  
Carbon Leader Reef  
R or ZAR  
South African rand  
cm  
Centimetres  
RC  
Reverse circulation drilling  
cm.g/t  
Centimetre grams per tonne  
RMF  
Resource Modification Factor  
C Reef  
Crystalkop Reef  
S  
Sulphur  
Cu  
Copper  
SAMREC  
The South African Code for the Reporting of  
Exploration Results, Mineral Resources and  
Mineral Reserves  
DD  
Diamond drilling  
SER  
Serrotinho deposit  
DRC

Democratic Republic of the Congo

SFZ

Sadiola Fracture Zone

FGS

Fonte Grande Sul

SMU

Selective mining unit

g

Grams

SSP

Sadiola Sulphide Project

GC

Grade control

t

Tonnes (metric)

GGM

Geita Gold Mine

tpa

Tonnes per annum

g/t

Grams per tonne

TSF

Tailings storage facility

ha

Hectare

tph

Tonnes per hour

JORC

Australasian Code for Reporting Exploration  
Results, Mineral Resources and Ore Reserves

tpm

Tonnes per month

JSE

Johannesburg Stock Exchange Limited

U

3

O

8

Uranium Oxide

kg

Kilograms

UC

Uniform conditioning

koz

Thousand ounces

VCR

Ventersdorp Contact Reef

kt

Thousand tonnes or tons

VR

Vaal Reef



kg/t

Kilograms per tonne

µm

Microns

MINERAL RESOURCE AND ORE RESERVE REPORT **2014**

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ADMINISTRATIVE INFORMATION FOR PROFESSIONAL ORGANISATIONS  
ADMINISTRATIVE INFORMATION

AusIMM

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PLATO

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Telephone: +27 (11) 626 1040 / 1080, Facsimile: 011 - 626 2007  
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SACNASP

The legislated regulatory body for natural science practitioners in South Africa  
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Telephone: +27 (12) 841-1075; Facsimile: +27 (12) 841-1057  
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SAIMM

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Telephone: +27 (011) 834-1273 / 7, Facsimile: +27 (011) 838-5923 / 8156  
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<http://www.smenet.org/>

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ADMINISTRATIVE INFORMATION  
FORWARD-LOOKING  
STATEMENTS

*Certain statements contained in this document, other than statements of historical fact, including, without limitation, those concerning the economic outlook for the gold mining industry, expectations regarding gold prices, production, cash costs, all-in sustaining costs, all-in costs, cost savings and other operating results, return on equity, productivity improvements, growth prospects and outlook of AngloGold Ashanti's operations, individually or in the aggregate, including the achievement of project milestones, commencement and completion of commercial operations of certain of AngloGold Ashanti's exploration and production projects and the completion of acquisitions, dispositions or joint venture transactions, AngloGold Ashanti's liquidity and capital resources and capital expenditures and the outcome and consequence of any potential or pending litigation or regulatory proceedings or environmental health and safety issues, are forward-looking statements regarding AngloGold Ashanti's operations, economic performance and financial condition. These forward-looking statements or forecasts involve known and unknown risks, uncertainties and other factors that may cause AngloGold Ashanti's actual results, performance or achievements to differ materially from the anticipated results, performance or achievements expressed or implied in these forward-looking statements. Although AngloGold Ashanti believes that the expectations reflected in such forward-looking statements and forecasts are reasonable, no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic, social and political and market conditions, the success of business and operating initiatives, changes in the regulatory environment and other government actions, including environmental approvals, fluctuations in gold prices and exchange rates, the outcome of pending or future litigation proceedings, and business and operational risk management. For a discussion of such risk factors, refer to AngloGold Ashanti's annual reports on Form 20-F filed with the United States Securities and Exchange Commission. These factors are not necessarily all of the important factors that could cause AngloGold Ashanti's actual results to differ materially from those expressed in any forward-looking statements. Other unknown or unpredictable factors could also have material adverse effects on future results. Consequently, readers are cautioned not to place undue reliance on forward-looking statements. AngloGold Ashanti undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events, except to the extent required by applicable law. All subsequent written or oral forward-looking statements attributable to AngloGold Ashanti or any person acting on its behalf are qualified by the cautionary statements herein. This communication may contain certain "Non-GAAP" financial*

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ANGLOGOLD ASHANTI LIMITED

Registration No. 1944/017354/06

Incorporated in the Republic of South Africa

Share codes:

ISIN:

ZAE000043485

JSE:

ANG

NYSE:

AU

ASX:

AGG

GhSE (Shares):

AGA

GhSE (GhDS):

AAD

**JSE Sponsor:**

Deutsche Securities (SA) Proprietary Limited

**Auditors:**

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*(As AngloGold Ashanti delisted from the London Stock Exchange on 22 September 2014, this information is provided for administration purposes only until September 2015.)*

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MINERAL RESOURCE AND ORE RESERVE REPORT **2014**

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ADMINISTRATIVE INFORMATION

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E-mail:

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Website:

[www.bnymellon.com.com/shareowner](http://www.bnymellon.com.com/shareowner)

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BoNY maintains a direct share purchase and dividend reinvestment plan for AngloGold Ashanti.

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*(As AngloGold Ashanti delisted from the London Stock Exchange on 22 September 2014, this information is provided for administration purposes only until September 2015.)*

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S Venkatakrishnan (Chief Executive Officer)

§\*

KC Ramon (Chief Financial Officer)

^

Non-executive

SM Pityana (Chairman)

^

Prof LW Nkuhlu (Deputy Chairman)

^

A Garner

#

R Gasant

^

D Hodgson

^

NP January-Bardill

^

MJ Kirkwood

\*

M Richter

#

RJ Ruston

~

\*

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§ Indian

# American

~ Australian

^ South African

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ME Sanz Perez

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WWW.ANGLOGOLDASHANTI.COM

A TRULY

**GLOBAL**

**PRODUCER OF GOLD**

**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, 2015

By:

/s/ M E SANZ PEREZ

Name: M E Sanz Perez

Title: Group General Counsel and Company  
Secretary