ANGLOGOLD ASHANTI LTD
Form 6-K
April 13, 2018

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 29, 2018
Commission File Number 1-14846
AngloGold Ashanti Limited
(Name of registrant)
76 Rahima Moosa 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 X
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 X

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 X

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

Yes
No X

Enclosure: Press release **ANGLOGOLD ASHANTI LIMITED – MINERAL RESOURCE AND ORE RESERVE REPORT FOR THE YEAR ENDED DECEMBER 31, 2017**

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Integrated Report **<IR>** is the primary document in our suite of reports and provides a concise overview and explanation of our performance in terms of our strategic objectives and the related outlook for the company. Both financial and non-financial performance are reviewed.

Notice of Annual General Meeting and Summarised Financial Information (Notice of Meeting) **<NOM>** is produced and posted to shareholders in line with the JSE Listings Requirements and the requirements of the South African Companies Act, 71 of 2008, as amended (Companies Act).

Sustainable Development Report **<SDR>** , compiled in line with the Global Reporting Initiative's (GRI's) latest G4 guidelines, is published together with the accompanying GRI scorecard and supplementary data.

Mineral Resource and Ore Reserve Report **<R&R>**
,
presented in line with the SAMREC and JORC codes, provides detailed information on all our operations and projects.

Annual Financial Statements **<AFS>** are prepared in accordance with the International Financial Reporting Standards (IFRS).

A dedicated annual reporting website, www.aga-reports.com, hosts PDFs of the full suite of these reports to facilitate ease of access by and communication with our stakeholders.

Click on any of the links below to download the relevant PDF.

AngloGold Ashanti publishes a suite of reports annually to record our overall performance. While the Integrated Report 2017 is our primary report, it should be read in conjunction with this report, the Mineral Resource and Ore Reserve Report 2017, as well as the other reports making up our full suite of reports for the year.

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ABOUT THIS REPORT

The Mineral Resource and Ore Reserve for AngloGold Ashanti Limited (AngloGold Ashanti) are reported in accordance with the minimum standards described by the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC code, 2016 edition), and also conforms to the standards set out in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC code, 2012 Edition).

The reporting criteria, as outlined in the reporting codes, have been used in the preparation of internal Competent Person reports (CPR) for each operation, from which the numbers stated in this report have been drawn. Reporting is also in accordance with Section 12 of the Johannesburg Stock Exchange (JSE) Listings Requirements

The Mineral Resource, as reported, is inclusive of the Ore Reserve component unless otherwise stated. Mineral Resource and Ore Reserve is reported as at 31st December 2017, net of 2016 production depletion.

Information is presented by operating region, country, mine and project. The following tables and graphs are used to illustrate details across AngloGold Ashanti's operations during 2017: infrastructure maps; legal aspects and tenure; Inclusive Mineral Resource and Ore Reserve comparison by region, country, mine and project; details of average drillhole/sampling spacing and type; geological cross sections and Mineral Resource sensitivities; 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 details of appointed Competent Persons. Topics for brief discussion include regional overview, country overview, introduction, geology, exploration, projects and estimation.

PLEASE NOTE:

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

- All figures are expressed on an attributable basis unless otherwise indicated
- Unless otherwise stated, $ or dollar refers to US dollars throughout
- Locations on maps are indicative
- Group and company are used interchangeably
- Mine, operation and business unit are used interchangeably
-

Rounding off of numbers may result in computational discrepancies

•

To reflect that figures are not precise calculations and that there is uncertainty in their estimation, AngloGold Ashanti reports tonnage and content in terms of two decimals: similarly by-products are reported without decimals

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Metric tonnes are used throughout this report

•

For terminology used in this report, please refer to the glossary of terms on page 265

•

All grade tonnage curves reflect the Mineral Resource and exclude stockpiles unless otherwise stated

1

Introduction
South Africa
Continental Africa
Australasia
Americas
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MINERAL RESOURCE AND ORE RESERVE REPORT
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INTRODUCTION
GROUP PROFILE
Our operations and projects are grouped regionally as follows:
South Africa
Continental Africa
Democratic Republic of the Congo, Ghana, Guinea, Mali and Tanzania
Australasia
Australia
Americas
Argentina, Brazil and Colombia
Our operations and projects are grouped regionally as follows:
South Africa
Continental Africa
Democratic Republic of the Congo, Ghana, Guinea, Mali and Tanzania
Australasia
Australia
Americas
Argentina, Brazil and Colombia
Percentages indicate the ownership interest held by AngloGold Ashanti.
All operations are 100%-owned unless otherwise indicated.
(1)
Both Morila and Kibali are managed and operated by Randgold Resources Limited
(2)
A feasibility study (FS) has been completed and AngloGold Ashanti is in final stages of negotiations with government to restart operations
(3)
A sale agreement for Kopanang has been entered into with Village Main Reef and was concluded at the end of February 2018
(4)
A sale agreement for Moab Khotsong has been entered into with Harmony Gold Mining Company Limited and was concluded at the end of February 2018
AMERICAS
1 Argentina

Cerro Vanguardia (92.5%)
2 Brazil
Serra Grande
AGA Mineração
3 Colombia
Gramalote (51%)
La Colosa
Quebradona (93.505%)
SOUTH AFRICA
9 South Africa
Vaal River
Kopanang
(3)
Moab Khotsong
(4)
West Wits
Mponeng
Surface Operations
9
8
2
3
1
10
7
5
4
Argentina
Colombia
DRC
Tanzania
Australia
Ghana
Guinea
Mali
South Africa
Brazil
AUSTRALASIA
10 Australia
Sunrise Dam
Tropicana (70%)
LEGEND
Operations Projects
CONTINENTAL AFRICA
4 Guinea
Siguiri (85%)
5 Mali
Morila (40%)
(1)
Sadiola (41%)

6 Ghana
Iduapriem
Obuasi
(2)
7 DRC
Kibali (45%)
(1)
8 Tanzania
Geita
6
LOCATION OF ANGLOGOLD ASHANTI'S
OPERATIONS
AND PROJECTS
3
Introduction
South Africa
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INTRODUCTION

CORPORATE GOVERNANCE

AngloGold Ashanti reports its Mineral Resource and Ore Reserve in accordance with the minimum standards described by the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (The SAMREC Code, 2016 edition), and also conform to the standards set out in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).

AngloGold Ashanti achieves this through ensuring the principles of integrity, transparency and materiality are central to the compilation of this report and through using the reporting criteria and definitions as detailed in the SAMREC code. In complying with revisions to the SAMREC code, the 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 for the individual operations and projects as defined in Table 1 of the code, apart from the maiden Ore Reserve declaration for Gramalote, which can be found on the company web site. The company will however continue to provide the high level of disclosure in this document it has in previous years in order to comply with the transparency requirements of the code.

AngloGold Ashanti has established a Mineral Resource and Ore Reserve Steering Committee (RRSC), which is responsible for setting and overseeing the company's Mineral Resource and Ore Reserve governance framework and for ensuring that it meets the company's goals and objectives while complying with all relevant regularity codes. Its membership and terms of references are mandated under a policy document signed off by the Chief Executive Officer.

Over more than a decade, the company has developed and implemented a rigorous system of internal and external reviews aimed at providing assurance in respect of its Ore Reserve and Mineral Resource estimates. 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:

- Mineral Resource and Ore Reserve at Mponeng
- Mineral Resource at Obuasi
- Ore Reserve at Obuasi
- Mineral Resource and Ore Reserve at Tropicana
- Mineral Resource and Ore Reserve at Gramalote
- Mineral Resource and Ore Reserve at Kibali

The external reviews were conducted by AMEC, Aranz Geo, Snowden, Optiro, SRK and Optiro respectively. Certificates of sign-off

have been received from the companies conducting the external reviews to state that the Mineral Resource and/or Ore Reserve
comply with the SAMREC and JORC codes and internal policies and guidelines.
In addition, numerous internal Mineral Resource and Ore Reserve process reviews were completed by suitably qualified Competent
Persons from within AngloGold Ashanti and no significant deficiencies were identified. The Mineral Resource and Ore Reserve are
underpinned by appropriate Mineral Resource management processes and protocols that ensure adequate corporate governance.
These procedures have been developed to be compliant with the guiding principles of the Sarbanes-Oxley Act of 2002 (SOX).
AngloGold Ashanti makes use of a web based group reporting database called the Mineral Resource and Ore Reserve Reporting
System (RCubed) for the compilation and authorisation of Mineral Resource and Ore Reserve reporting. It is a fully integrated
system for the reporting and reconciliation of Mineral Resource and Ore Reserve that supports various regulatory reporting
requirements including the United States Securities and Exchange Commission (SEC) and the JSE under SAMREC. AngloGold
Ashanti uses RCubed to ensure a documented chain of responsibility exists from the Competent Persons at the operations to the
company's RRSC.
AngloGold Ashanti has also developed an enterprise-wide risk management tool that provides consistent and reliable data that
allows for visibility of risks and actions across the group. This tool is used to facilitate, control and monitor material risks to the
Mineral Resource and Ore Reserve, thus ensuring that the appropriate risk management and mitigation plans are in place.

Competent Persons

The information in this report relating to exploration results, Mineral Resource and Ore Reserve is based on information compiled by or under the supervision of the Competent Persons as defined in the SAMREC or JORC codes. All Competent Persons are employed by AngloGold Ashanti, except for at Kibali and Morila, and have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking. The legal tenure of each operation and project has been verified to the satisfaction of the accountable Competent Person and all their Ore Reserve have been confirmed to be covered by the required mining permits or there exists a realistic expectation that these permits will be issued. This information is detailed within this report. The Competent Persons consent to the inclusion of Exploration Results, Mineral Resource and Ore Reserve information in this report, in the form and context in which it appears.

Accordingly, the Chairman of the Mineral Resource and Ore Reserve Steering Committee, VA Chamberlain, MSc (Mining Engineering), BSc (Hons) (Geology), MGSSA, FAusIMM, assumes responsibility for the Mineral Resource and Ore Reserve processes for AngloGold Ashanti and is satisfied that the Competent Persons have fulfilled their responsibilities. VA Chamberlain has 30 years' experience in exploration and mining and is employed full-time by AngloGold Ashanti and can be contacted at the following address: 76 Rahima Moosa Street, Newtown 2001, South Africa.

INTRODUCTION CONTINUED

THE YEAR IN REVIEW

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 the asset portfolio.

Price

The SAMREC and JORC codes require the use of reasonable economic assumptions. These include long-range commodity price and exchange rate forecasts. These are reviewed annually and are prepared in-house using a range of techniques including historic price averages.

The Mineral Resource sensitivities shown in the detail of this report use a base of $1,400/oz and a range of $200/oz, unless stated otherwise.

Gold price

The following local prices of gold were used as a basis for estimation in the December 2017 declaration:

Gold price
US$/oz
Local prices of gold
South Africa
Australia
Brazil
Argentina
ZAR/kg
AUD/oz
BRL/oz
ARS/oz

2017 Ore Reserve
1,100
512,059
1,491
3,573
17,898
2016 Ore Reserve
1,100
530,000
1,500
4,041
14,969
2017 Mineral Resource
1,400
601,870
1,824
4,492
21,242
2016 Mineral Resource
1,400
663,819
1,817
4,414

21,531
Copper price
The following copper price was used as a basis for estimation in the December 2017 Mineral Resource declaration (currently there is
no copper Ore Reserve):

Copper price	US$/lb
2017 Mineral Resource	3.16
2016 Mineral Resource	2.90

Mineral Resource
Gold
The AngloGold Ashanti Mineral Resource reduced from 214.7Moz in December 2016 to 208.2Moz in December 2017. This gross
annual decrease of 6.6Moz includes depletion of 4.8Moz. The balance of 1.8Moz reduction in Mineral Resource results from an
increase due to exploration and modelling changes of 1.9Moz and a reduction due to other factors of 0.4Moz, while changes in
economic assumptions resulted in a 3.3Moz reduction. The Mineral Resource has been estimated at a gold price of US$1,400/oz
(2016: US$1,400/oz).

Ounces (millions)
216
214
212
210
208
206
204
0.0
0.0
1.0
0.1
0.9
-4.8
-0.2
-3.2
-0.4
214.7
208.2
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Acquisitions
Other
2017
AngloGold Ashanti Mineral Resource reconciliation 2016 vs 2017
Total (attributable)
Mineral Resource
Moz
as at 31 December 2016
214.7
Depletions
(4.8)
Sub-total
209.9
Additions
Siguiri
Decreased costs resulted in a reduced cut-off grade
1.4
Obuasi
Mineral Resource updated based on recaptured geological data
0.6
Other
Additions less than 0.5Moz
1.6
Sub-total

213.5
Reductions
TauTona
Mine commenced orderly closure and part of the Mineral Resource
transferred to Mponeng
(2.6)
West Wits Surface
Cost increase resulted in reductions
(0.8)
Moab Khotsong
Due primarily to reclassification of Mineral Resource
(0.8)
Other
Reductions less than 0.5Moz
(1.1)
Mineral Resource as at 31 December 2017
208.2
Copper
The AngloGold Ashanti copper Mineral Resource increased from 7,933 million pounds in December 2016 to 8,000 million pounds
in December 2017. The increase was due to the attributable percentage for Quebradona increasing from 92.72% to 93.505%.
The Mineral Resource has been estimated at a copper price of US$3.16/lb (2016: US$2.90/lb).
Prior to 2017, copper at Quebradona was reported as a by-product of gold. However, recent technical studies have confirmed that
Quebradona is a copper-gold mine. The original Table 1 JORC submission for Quebradona can be found on the company website.
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THE YEAR IN REVIEW

Ore Reserve

Gold

The AngloGold Ashanti Ore Reserve reduced from 50.1Moz in December 2016 to 49.5Moz in December 2017. This gross annual decrease of 0.6Moz includes depletion of 4.3Moz. The balance of 3.7Moz addition in Ore Reserve results from exploration and modelling changes of 4.0Moz and other factors of 0.5Moz, while changes in economic assumptions resulted in a 0.8Moz reduction.

The Ore Reserve has been estimated using a gold price of US$1,100/oz (2016: US$1,100/oz).

Ore Reserve

Moz

as at 31 December 2016

50.1

Depletions

(4.3)

Sub-total

45.8

Additions

Gramalote

Positive prefeasibility study (PFS) complete and approved by Board

1.8

AGA Mineração

Inclusion of transitional and sulphide material in the Córrego do Sítio Rosalino open pit as well as Mineral Resource conversions

0.8

Tropicana

Model update for Havana South and new designs for Boston Shaker

0.6

Obuasi

Updated mine plan based on updated Mineral Resource models

0.4

Cerro Vanguardia

Due to improved methodology

0.3

Other

Additions less than 0.3Moz

0.8

Sub-total

50.5

Reductions

TauTona

Mine commenced orderly closure

(0.7)

Other

Reductions less than 0.3Moz

(0.3)

Ore Reserve as at 31 December 2017

49.5

Pounds (millions)

AngloGold Ashanti Mineral Resource reconciliation 2016 vs 2017
Total (attributable)
8,500
8,000
7,500
7,000
6,500
6,000
67
7,933
8,000
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Acquisitions
Other
2017
0
0
0
0
0
0
0
0
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MINERAL RESOURCE AND ORE RESERVE REPORT
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Sale of assets

AngloGold Ashanti announced on 19 October 2017 that it was selling various assets in the Vaal River region of its South African
operations. The sales processes as at 31st December 2017 were still underway and therefore do not affect the stated Mineral
Resource and Ore Reserve for 2017. However, with the conclusion of the sales at the end of February 2018, the following
reductions in Mineral Resource and Ore Reserve will take place:

Kopanang:
Mineral Resource
3.02 Moz
Ore Reserve
0.36 Moz
Moab Khotsong:
Mineral Resource
16.30 Moz
Ore Reserve
4.87 Moz
Surface Operations:
Mineral Resource
0.87 Moz
Ore Reserve
0.87 Moz

By-products

Several by-products will be recovered as a result of processing of the gold Ore Reserve. These include 40.4kt of uranium oxide from
the South African operations, 0.37Mt of sulphur from Brazil and 21.8Moz of silver from Argentina.

Ounces (millions)
52
51
50
49
48
47
46
45
44
43
5.0
0.1
0.1
0.6
-4.3
-1.0
-0.7
-0.2
-0.1
50.1
49.5
2016
Depletion

Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Revenue factor
Other
2017

AngloGold Ashanti Ore Reserve reconciliation 2016 vs 2017

Total (attributable)

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GROUP OVERVIEW

Mineral Resource by country (attributable) inclusive of Ore Reserve

Gold	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
South Africa	Measured	138.59	1.83	254.26	8.17
	Indicated	741.80	2.29	1,696.52	54.54
	Inferred	28.22	14.52	409.69	13.17
	Total	908.62	2.60	2,360.47	75.89
Democratic Republic of Congo	Measured	10.05	4.11	41.30	1.33
	Indicated	46.70	3.07	143.52	4.61
	Inferred	19.98	2.34	46.66	1.50
	Total				

76.73
3.02
231.48
7.44
Ghana
Measured
6.46
3.38
21.83
0.70
Indicated
185.22
4.07
753.89
24.24
Inferred
75.02
6.07
455.69
14.65
Total
266.70
4.62
1,231.42
39.59
Guinea
Measured
24.19
0.65
15.78
0.51
Indicated
156.34
0.84
131.43
4.23
Inferred
78.35
1.01
79.06
2.54
Total
258.88
0.87
226.27
7.27
Mali
Measured
6.35
0.54
3.43

0.11
Indicated
50.30
1.79
89.94
2.89
Inferred
7.62
1.62
12.37
0.40
Total
64.27
1.65
105.74
3.40
Tanzania
Measured
–
–
–
–
Indicated
29.24
3.41
99.65
3.20
Inferred
22.44
4.46
100.13
3.22
Total
51.68
3.87
199.78
6.42
Australia
Measured
33.57
0.97
32.40
1.04
Indicated
127.10
1.98
251.04
8.07
Inferred
35.38
1.84

64.93
2.09
Total
196.05
1.78
348.37
11.20
Argentina
Measured
7.44
2.20
16.35
0.53
Indicated
18.59
3.13
58.17
1.87
Inferred
2.91
2.63
7.65
0.25
Total
28.94
2.84
82.18
2.64
Brazil
Measured
20.04
6.13
122.87
3.95
Indicated
24.21
5.85
141.75
4.56
Inferred
46.50
5.84
271.47
8.73
Total
90.75
5.91
536.09
17.24
Colombia
Measured

–
–
–
–
Indicated
1,021.66
0.84
854.32
27.47
Inferred
753.32
0.40
298.46
9.60
Total
1,774.98
0.65
1,152.78
37.06
Total
Measured
246.70
2.06
508.24
16.34
Indicated
2,401.18
1.76
4,220.23
135.68
Inferred
1,069.74
1.63
1,746.09
56.14
Total
3,717.61
1.74
6,474.56
208.16

Mineral Resource by country (attributable) exclusive of Ore Reserve

Gold

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
South Africa				
Measured	8.75	20.06	175.41	5.64
Indicated	82.13	10.28	844.59	27.15
Inferred	15.83	15.97	252.82	8.13
Total	106.71	11.93	1,272.82	40.92
Democratic Republic of Congo				
Measured	1.29	2.64	3.41	0.11
Indicated	24.83	2.34	58.08	1.87
Inferred	19.98	2.34	46.66	1.50
Total	46.10	2.35		

108.15
3.48
Ghana
Measured
3.51
5.57
19.55
0.63
Indicated
125.21
4.06
508.39
16.35
Inferred
75.02
6.07
455.69
14.65
Total
203.74
4.83
983.63
31.62
Guinea
Measured
–
–
–
–
Indicated
85.09
0.83
70.30
2.26
Inferred
77.94
1.01
78.75
2.53
Total
163.04
0.91
149.04
4.79
Mali
Measured
–
–
–
–
Indicated

20.68
1.73
35.68
1.15
Inferred
7.62
1.62
12.37
0.40
Total
28.30
1.70
48.05
1.54
Tanzania
Measured
–
–
–
–
Indicated
20.70
2.93
60.64
1.95
Inferred
22.44
4.46
100.13
3.22
Total
43.14
3.73
160.77
5.17
Australia
Measured
10.53
0.57
6.05
0.19
Indicated
84.41
1.79
151.43
4.87
Inferred
35.38
1.84
64.93
2.09

Total
130.32
1.71
222.41
7.15
Argentina
Measured
2.72
3.13
8.53
0.27
Indicated
12.80
2.93
37.49
1.21
Inferred
1.12
4.55
5.10
0.16
Total
16.64
3.07
51.11
1.64
Brazil
Measured
13.87
6.70
92.89
2.99
Indicated
11.69
5.66
66.16
2.13
Inferred
46.25
5.85
270.39
8.69
Total
71.80
5.98
429.44
13.81
Colombia
Measured
–
–

–
–
Indicated
958.02
0.83
799.69
25.71
Inferred
753.32
0.40
298.46
9.60
Total
1,711.35
0.64
1,098.15
35.31
Total
Measured
40.67
7.52
305.84
9.83
Indicated
1,425.56
1.85
2,632.45
84.64
Inferred
1,054.90
1.50
1,585.28
50.97
Total
2,521.13
1.79
4,523.57
145.44
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INTRODUCTION CONTINUED
GROUP OVERVIEW
Mineral Resource by country (attributable) inclusive of Ore Reserve*

Copper	**Category**	**Tonnes million**	**Grade %Cu**	**Contained copper as at 31 December 2017 tonnes million**	**pounds million**
Americas	Measured	–	–	–	–
	Indicated	105.25	1.08	1.14	2,508
	Inferred	471.60	0.53	2.49	5,492
	Total	576.85	0.63	3.63	8,000
Total	Measured	–	–	–	–
	Indicated	105.25	1.08	1.14	2,508
	Inferred	471.60	0.53	2.49	5,492
	Total	576.85			

0.63
3.63
8,000
** Copper Mineral Resource exclusive and inclusive of Ore Reserve are the same as there is no Ore Reserve*
Ore Reserve by country (attributable)
Gold
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
South Africa
Proved
131.24
0.50
65.22
2.10
Probable
663.28
1.00
665.99
21.41
Total
794.52
0.92
731.21
23.51
Democratic Republic of Congo
Proved
8.54
4.07
34.78
1.12
Probable
21.18
4.10
86.76
2.79
Total
29.72
4.09
121.55
3.91
Ghana
Proved
2.95
0.77

2.29
0.07
Probable
58.59
4.06
237.75
7.64
Total
61.54
3.90
240.04
7.72
Guinea
Proved
24.19
0.65
15.78
0.51
Probable
63.18
0.85
53.97
1.74
Total
87.37
0.80
69.75
2.24
Mali
Proved
0.10
2.14
0.22
0.01
Probable
32.58
1.69
54.97
1.77
Total
32.68
1.69
55.18
1.77
Tanzania
Proved
–
–
–
–
Probable

8.54
4.55
38.86
1.25
Total
8.54
4.55
38.86
1.25
Australia
Proved
23.04
1.14
26.33
0.85
Probable
42.69
2.33
99.60
3.20
Total
65.73
1.92
125.94
4.05
Argentina
Proved
4.62
1.69
7.81
0.25
Probable
5.55
3.69
20.50
0.66
Total
10.17
2.78
28.32
0.91
Brazil
Proved
4.28
4.17
17.86
0.57
Probable
12.56
4.50
56.50

1.82
Total
16.84
4.42
74.36
2.39
Colombia
Proved
–
–
–
–
Probable
63.71
0.86
54.67
1.76
Total
63.71
0.86
54.67
1.76
Total
Proved
198.96
0.86
170.29
5.47
Probable
971.87
1.41
1,369.57
44.03
Total
1,170.83
1.32
1,539.86
49.51
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Reconciliation of Inclusive Mineral Resource (gold content Moz)

As at 31 December 2017

	Previous year	**Depletion**	**Exploration**	**Methodo-logy**	**Gold price**	**Cost**	**Geo-technical**	**Metal-lurgical**	**Other**	**Acquisition/ disposal**	**Current year**	**Net diff**	**%**	**Comments**
South Africa region														
Kopanang	3.266	(0.165)	(0.079)	–	–	–	–	–	–	–	3.022	(0.24)	(7)	Decrease as a result of depletion and the removal of four mining blocks due to geological structure.
Moab Khotsong	17.494	(0.413)	(0.589)	–	–	(0.204)	–	–	0.012					

–
16.300
(1.19)
(7)
Year-on-year decrease is as a result of depletion, cost increases and revised
Mineral Resource classification which resulted in losses due to increased
structural discounts.
Vaal River Surface
4.024
(0.278)
0.008
–
(0.154)
–
0.078
–
0.004
–
3.683
(0.34)
(8)
Decrease as a result of depletions and Rand gold price decrease, with minor
additions due to deposition on tailings storage facilities (TSFs) and East TSF block
model changes.
Mine Waste Solutions
2.331
(0.086)
–
–
–
–
(0.001)
–
0.002
–
2.244
(0.09)
(4)
Year-on-year decrease due to depletion.
Mponeng
50.028
(0.290)
(1.371)
–
–
(0.460)
–
–
2.065
–
49.972

(0.06)
(0)
Main differences are the result of the transfer of Mineral Resource from Savuka and TauTona (+2.065Moz) as well as the addition of the Phase 4 and 6 project areas. Net value drop offset by revised geological and estimation model in the Booysens and Kimberley estimation domains.
TauTona
2.670
(0.111)
0.091
(0.243)
–
(0.342)
–
–
(2.065)
–
–
(2.67)
(100)
Due to economic considerations TauTona commenced orderly closure during the year and the Mineral Resource has been transferred to Mponeng.
West Wits Surface
1.549
(0.029)
0.062
–
–
(0.934)
0.019
–
0.003
–
0.670
(0.88)
(57)
Cost increases resulted in reductions.
Total
81.362
(1.373)
(1.878)
(0.243)
(0.154)
(1.940)
0.096
–
0.021
–
75.891
(5.47)
(7)

Continental Africa region
Kibali
7.732
(0.360)
0.111
–
–
(0.013)
–
–
(0.027)
–
7.442
(0.29)
(4)
Decrease as a result of depletion partially balanced by minor exploration additions.
Iduapriem
5.561
(0.377)
0.099
–
–
0.257
–
–
0.004
–
5.544
(0.02)
(0)
Annual depletion offset by costs improvements.
Obuasi
33.489
–
–
0.558
–
–
–
–
–
–
34.047
0.56
2
Slight year-on-year increase as a result of improvements in the geological model
based on recaptured base data.
Siguiri
6.148
(0.318)
0.701

0.183
–
0.610
–
–
(0.049)
–
7.275
1.13
18
Year-on-year increase as a result of cost improvements and exploration success
in the sulphides at Saraya and Seguélén.
Morila
0.171
(0.053)
(0.003)
–
–
–
–
–
–
–
0.114
(0.06)
(33)
Mineral Resource decreased as a result of depletion.
Sadiola
3.336
(0.082)
0.090
0.019
–
(0.079)
–
–
0.002
–
3.286
(0.05)
(2)
Most changes from last year to this related to depletion, model updates and
cost changes.
Geita
7.318
(0.543)
–
(0.241)
–
(0.252)
–

–
0.140
–
6.423
(0.90)
(12)
Mineral Resource decreased mainly as a result of depletion, costs increases in
processing and the addition of a crown pillar between open pit and underground.
Total
63.755
(1.733)
0.997
0.520
–
0.523
–
–
0.070
–
64.131
0.38
1
Australasia region
Sunrise Dam
5.875
(0.263)
0.316
0.299
–
–
–
–
(0.245)
–
5.982
0.11
2
Mineral Resource has increased due to exploration and model methodology
which has offset depletion and sterilisation.
Tropicana
5.613
(0.384)
0.009
0.105
–
(0.125)
–
–
–
–
5.218

(0.40)
(7)
Overall decrease in Mineral Resource with losses due to depletion and
optimisation of the pit designs, with minor additions due to revised modelling
parameters and exploration additions.
Total
11.488
(0.647)
0.325
0.405
–
(0.125)
–
–
(0.245)
–
11.200
(0.29)
(3)
Americas region
Cerro Vanguardia
3.059
(0.341)
0.028
0.021
–
(0.092)
–
–
(0.033)
–
2.642
(0.42)
(14)
Year-on-year decrease in the Mineral Resource as a result of depletion.
AGA Mineração
13.944
(0.491)
1.263
(0.836)
–
(0.042)
–
–
(0.264)
–
13.574
(0.37)
(3)
Overall decrease in the Mineral Resource, with decreases as a result of depletion and
the constraining of the open pits, balanced by exploration additions at Cuiabá below

level 25 on Fonte Grande Sul (FGS) and below level 8.1 on the Carruagem orebody
at Lamego.
Serra Grande
3.551
(0.189)
0.261
0.044
–
(0.013)
–
–
0.007
–
3.662
0.11
3
Year-on-year increase in the Mineral Resource as a result of exploration success
at Mangaba and Baru open pit, offset by depletion.
Gramalote
3.475
–
0.010
1.073
–
(1.486)
–
–
–
–
3.072
(0.40)
(12)
Decrease in the Mineral Resource as a result of a cut-off increase and wireframe
changes.
La Colosa
28.464
–
–
(0.134)
–
–
–
–
–
–
28.330
(0.13)
(0)
Minor changes in the Mineral Resource due to revised geological model and
variography.
Quebradona

5.613
–
–
–
–
–
–
–
–
0.047
5.660
0.05
1
No changes to the Mineral Resource, attributable percentage changed from
92.72% to 93.505%.
Total
58.105
(1.021)
1.563
0.169
–
(1.633)
–
–
(0.290)
0.047
56.940
(1.17)
(2)
Grand total
214.711
(4.774)
1.006
0.850
(0.154)
(3.175)
0.096
–
(0.445)
0.047
208.162
(6.55)
(3)
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Reconciliation of Ore Reserve (gold content Moz)

As at 31 December 2017	Previous year	Depletion	Exploration	Methodology	Gold price	Cost	Geotechnical	Metallurgical	Revenue factor	Other	Acquisition/ disposal	Current year	Net diff	%	Comments
South Africa region															
Kopanang	0.493	(0.109)	–	–	–	–	(0.022)	–	–	–	–	0.362	(0.13)		

(27)
Ore Reserve decreased year-on-year as a result of depletion.
Moab Khotsong
5.001
(0.308)
(0.626)
–
–
–
(0.006)
–
–
0.813
–
4.873
(0.13)
(3)
Reduction in the Ore Reserve was as a result of depletion and geological model changes, this was offset by additions coming from scope changes in the growth projects.
Vaal River Surface
3.934
(0.225)
0.008
–
–
(0.105)
0.048
0.010
–
0.005
–
3.675
(0.26)
(7)
Year-on-year Ore Reserve decreased as a result of depletion and cost.
Mine Waste Solutions
2.292
(0.084)
–
–
–
–
(0.001)
0.036
–
0.001
–
2.244
(0.05)
(2)

Ore Reserve decreased year-on-year primarily as a result of depletion.
Mponeng
12.481
(0.239)
2.290
(2.693)
–
–
(0.164)
–
–
0.486
–
12.162
(0.32)
(3)
Ore Reserve position is down overall as a result of depletion and geological and geotechnical changes, this was partially offset by replacing the below 120 phased approach project with the life of mine (LOM) extension project and the inclusion of TauTona Ore Reserve.
TauTona
0.762
(0.085)
–
–
–
–
(0.179)
–
–
(0.499)
–
–
(0.76)
(100)
Due to economic considerations TauTona commenced orderly closure during the year and the residual Ore Reserve has been partially transferred to Mponeng and will be extracted at a later period in the Mponeng LOM.
West Wits Surface
0.172
(0.026)
0.005
0.023
(0.018)
–
0.003
0.016
–
0.017
–
0.192

0.02
12
Ore Reserve increased during the year as a result of model changes
at the Old North block.
Total
25.134
(1.076)
1.677
(2.670)
(0.018)
(0.105)
(0.321)
0.062
–
0.824
–
23.509
(1.63)
(6)
Continental Africa region
Kibali
4.128
(0.310)
1.016
–
–
(0.014)
–
–
–
(0.914)
–
3.908
(0.22)
(5)
Ore Reserve decreased during the year as a result of depletions and
model changes.
Iduapriem
1.843
(0.248)
–
–
–
0.122
–
–
(0.135)
0.271
–
1.853
0.01

1
Overall increase in the Ore Reserve as a result of additions at block
3W and lower mining costs.
Obuasi
5.489
–
–
0.375
–
–
–
–
–
–
–
5.864
0.37
7
No depletion during the year. Ore Reserve increased on the back of
an updated mine plan based on updated Mineral Resource models.
Siguiri
2.443
(0.277)
0.013
–
–
0.147
–
–
0.015
(0.099)
–
2.242
(0.20)
(8)
Ore Reserve decreased during the year as a result of depletions
which were countered in part by exploration and cost reductions.
Morila
0.108
(0.037)
0.005
–
–
–
–
–
–
–
–
0.077
(0.03)

(29)
Depletion was offset slightly by the addition of the Domba pit.
Sadiola
1.798
(0.056)
–
0.133
–
(0.055)
–
–
(0.015)
(0.107)
–
1.698
(0.10)
(6)
Ore Reserve reduced during the year as a result of depletion and an increase in the cut-off.
Geita
1.967
(0.644)
0.002
(0.037)
–
(0.080)
–
–
(0.199)
0.240
–
1.249
(0.72)
(36)
Year-on-year the Ore Reserve decreased, largely driven by depletion and costs.
Total
17.776
(1.572)
1.037
0.471
–
0.121
–
–
(0.334)
(0.609)
–
16.891
(0.89)
(5)

Australasia region
Sunrise Dam
1.344
(0.276)
0.123
(0.005)
–
(0.005)
–
–
–
0.013
–
1.194
(0.15)
(11)
Ore Reserve decreased overall as a result of depletion, despite minor exploration additions in Vogue.
Tropicana
2.659
(0.383)
–
0.207
–
(0.476)
–
–
0.436
0.412
–
2.855
0.20
7
Overall increase in the Ore Reserve as a result of model update to Havana South and new pit designs for Boston Shaker 03 and 04.
Total
4.003
(0.658)
0.123
0.202
–
(0.481)
–
–
0.436
0.424
–
4.049
0.05
1
Americas region

Cerro Vanguardia
0.946
(0.341)
(0.311)
0.715
–
(0.067)
(0.031)
–
–
–
–
0.910
(0.04)
(4)
Slight decrease in the Ore Reserve, with the depletion being largely
offset by improved estimation methodology.
AGA Mineração
1.722
(0.466)
0.677
0.174
–
(0.056)
–
0.009
–
–
–
2.060
0.34
20
Year-on-year increase in the Ore Reserve, driven by the inclusion
of transitional and sulphide material in the Córrego do Sítio (CdS)
Rosalino open pit as well as Mineral Resource conversions.
Serra Grande
0.478
(0.151)
–
0.103
(0.051)
(0.145)
0.109
–
(0.012)
–
–
0.330
(0.15)
(31)
Ore Reserve decreased year-on-year as a result of depletion, with

minor additions due to model and scope changes and reductions due
to exchange rate.
Gramalote
–
–
1.758
–
–
–
–
–
–
–
–
1.758
1.76
–
PFS complete and approved by Board.
Total
3.146
(0.958)
2.124
0.992
(0.051)
(0.268)
0.078
0.009
(0.012)
(0.001)
–
5.059
1.91
61
Grand total
50.060
(4.264)
4.961
(1.005)
(0.069)
(0.732)
(0.243)
0.071
0.090
0.639
–
49.508
(0.55)
(1)
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SOUTH
AFRICA
SECTION 2

SOUTH AFRICA
REGIONAL OVERVIEW
0
400km
Durban
Lesotho
Swaziland
Bloemfontein
Pretoria
Carletonville
Klerksdorp
East London
Port Elizabeth
(1)
Includes MWS
Surface Operations are distributed
throughout the Vaal River and West Wits
operations
(2)
A sale agreement for Kopanang has been entered into with Village Main Reef
and was concluded at the end of February 2018
(3)
A sale agreement for Moab Khotsong has been entered into with Harmony Gold
Mining Company Limited and was concluded at the end of February 2018
(4)
TauTona operation commenced orderly closure in 2017
Cape Town
North West
Free State
1+3
2+3
North West
N
Free State
Border
Moab Khotsong
(3)
Kopanang
(2)
1 Vaal River
Kopanang
(2)
Moab Khotsong
(3)
Surface Operations
1
1
Vaal River
2
West Wits
3

Surface Operations
(1)
0
4km
Orkney
Operations
N
Fochville
Mponeng
WUDLs
TauTona
(4)
Gauteng
2 West Wits
Mponeng
TauTona
(4)
Surface Operations
2
0
4km
Contribution to regional production
(excluding technology)
•
Mponeng
•
Kopanang
•
Surface operations
•
TauTona
•
Moab Khotsong
%
25
33
10
22
10
Contribution to group production
•
South Africa
•
Rest of AngloGold
Ashanti
%
24
76
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SOUTH AFRICA CONTINUED

REGIONAL OVERVIEW

As at December 2017, AngloGold Ashanti's operations in South Africa had a total Mineral Resource (inclusive of the Ore Reserve) of 75.9Moz (2016: 81.4Moz) and an Ore Reserve of 23.5Moz (2016: 25.1Moz).

This is equivalent to 36% and 47% of the group's Mineral Resource and Ore Reserve respectively. The South African operations produced 903koz of gold in 2017, or 24% of group production.

AngloGold Ashanti's South Africa operations comprise four deep level underground mines and three surface processing operations, collectively referred to as Surface Operations.

All four underground mines are 100% owned by AngloGold Ashanti. The mining operations are all located within the Witwatersrand Basin and are in two mining districts, Vaal River and West Wits.

- The Vaal River operations consist of the Kopanang and Moab Khotsong mines 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 (CR).
- The West Wits operations consist of the Mponeng mine (TauTona having commenced orderly closure during 2017) which is situated near the town of Carletonville. The primary reef being mined is the Ventersdorp Contact Reef (VCR).

At the South African underground operations, a sequential and/or scattered grid mining method is employed to extract the gold from the deep, narrow, tabular orebodies. The grid is pre-developed through a series of haulages and crosscuts. Stoping takes place by means of breast mining using conventional drill and blast techniques. The selective mining unit (SMU) is 100m x 100m.

The Surface Operations are located in both districts and include the Vaal River Surface, Mine Waste Solutions (MWS) and the West Wits Surface processing operations. They rework and retreat the low grade stockpiles and tailings storage facilities (TSFs) which result from the mining and processing of the primary and secondary reef horizons.

Contribution to group total Ore Reserve

- 47 South Africa
- 53 Rest of AngloGold Ashanti

%

Contribution to group total Mineral Resource

- 36 South Africa
- 64 Rest of AngloGold Ashanti

%

Key statistics

Units

2017

2016

2015
Operational performance
Tonnes treated/milled
Mt
38.9
39.6
36.8
Recovered grade
(1)
oz/t
0.202
0.219
0.225
g/t
6.93
7.51
7.70
Gold production (attributable)
000oz
903
967
1,004
Total cash costs
$/oz
1,085
896
881
Total production costs
$/oz
1,247
1,089
1,091
All-in sustaining costs
(2)
$/oz
1,245
1,081
1,088
Capital expenditure (attributable)
$m
150
182
206
(1)
Refers to underground operations only
(2)
Excludes stockpile write-offs
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Due to economic considerations, the decision was taken by the AngloGold Ashanti Executive and ratified by the AngloGold Ashanti
Board, to place TauTona (including Savuka) operations into orderly closure as at the end of the third quarter 2017, 2.07Moz and
0.49Moz of the residual Mineral Resource and Ore Reserve respectively were transferred to Mponeng for extraction at a later time
period in the Mponeng LOM.

AngloGold Ashanti announced in the third quarter of 2017 that it was selling various assets in the Vaal River region. The sale
processes was still underway as at 31 December 2017 and therefore do not affect the stated Mineral Resource and Ore Reserve
for 2017.

However, with conclusion of the sale process at the end of February 2018 the following reductions will take place:

Kopanang:
Mineral Resource
3.02 Moz
Ore Reserve
0.36 Moz

Moab Khotsong:
Mineral Resource
16.30 Moz
Ore Reserve
4.87 Moz

Inclusive Mineral Resource

South Africa

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	138.59	1.83	254.26	8.17
Indicated	741.80	2.29	1,696.52	54.54
Inferred	28.22	14.52	409.69	13.17
Total	908.62			

2.60
2,360.47
75.89
Exclusive Mineral Resource

South Africa				
Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	8.75	20.06	175.41	5.64
Indicated	82.13	10.28	844.59	27.15
Inferred	15.83	15.97	252.82	8.13
Total	106.71	11.93	1,272.82	40.92

Ore Reserve

South Africa				
Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Proved	131.24	0.50	65.22	2.10
Probable				

663.28
1.00
665.99
21.41
Total
794.52
0.92
731.21
23.51
South Africa Mineral Resource – attributable
per operation
TauTona
West
Wits
Surface
Mine
Waste
Solutions
Kopanang
Vaal
River
Surface
Moab
Khotsong
Mponeng
0
10
20
30
40
50
60
2.7
0.0
1.5
0.7
2.3
2.2
3.3
3.0
4.0
3.7
17.5
16.3
50.0
50.0
2016
2017
Moz
South Africa Ore Reserve – attributable
per operation

TauTona
West
Wits
Surface
Mine
Waste
Solutions
Kopanang
Vaal
River
Surface
Moab
Khotsong
Mponeng
0
2
4
6
8
10
12
14
0.8
0.0
0.2
0.2
0.5
0.4
2.3
2.2
3.9
3.7
5.0
4.9
12.5
12.2
2016
2017
Moz
Surface Operations:
Mineral Resource
0.87Moz
Ore Reserve
0.87Moz
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Introduction

Property description

Kopanang is a mature, deep level underground operation. The centre of mining has shifted over the past few years to the west of the mine lease area.

Location

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

History

Shaft sinking was initiated in 1977 and completed by 1981 with production beginning in 1984.

Legal aspects and tenure

The current mining lease encompasses an area of 35km^2 . AngloGold Ashanti holds a number of mining rights in the Klerksdorp area which have been successfully converted, executed and registered as new order mining rights at the Mineral and Petroleum Resources Titles Office (MPRTO).

- NW30/5/1/2/2/04MR valid from 12 September 2007 to 11 September 2022
- NW30/5/1/2/3/2/2/14MR valid from 18 February 2013 to 17 February 2043
- NW30/5/1/1/2/16MR valid from 20 August 2008 to 19 August 2038

Mining method

Two gold-bearing horizons (VR and CR) are accessed via a single 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.

Operational infrastructure

Kopanang’s surface and underground infrastructure, as well as the power and water services, exceed the planned peak LOM production requirements. Broken rock handling is track-bound, transferred to a number of inter-level sub-vertical transfer systems that gravity feeds to the main silos on 75 Level. The rock is hoisted to surface through the main shaft. From the shaft the rock is transported to the processing plant by train.

Mineral processing

Stoping ore and development waste rock is hoisted and processed as one product. Moab Khotsong and Kopanang mines share the Great Noligwa gold plant, and this plant’s design capacity exceeds the maximum planned production from the two mines. Gold and uranium is recovered through gold cyanide and acid uranium leaching. The reef is milled at the Great Noligwa gold plant and processed at the South uranium plant for uranium oxide extraction prior to gold extraction at the Great Noligwa gold plant.

Risks

Kopanang is mining on a declining grade profile to the west with bulk future mining in the low value 460W geological domain.

Competent Persons

Kopanang

Category

Competent Person

Professional organisation

Membership number

Relevant experience

Qualification

Mineral Resource

Rebaone Francis Gaelejwe
SACNASP
400207/14
16 years
BSc Hons (Geology)
Ore Reserve
Pieter Enslin
SAGC
PMS 0183
35 years
GDE (Mineral Economics),
HND (Mineral Resource
Management), MSCC
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SOUTH AFRICA CONTINUED
KOPANANG

Geology

Deposit type

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 CR 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 CR forms the top of the Johannesburg Subgroup, while the VR lies approximately 255m below the CR. The two narrow tabular orebodies are both gold and uranium bearing but currently only the VR is mined, with limited CR mining planned during the LOM. The CR 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 north-dipping and younger, low-angle 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.

Mineralisation style

Extensive research has conclusively shown that gold was precipitated in Witwatersrand conglomerates reefs through the actions of hydrothermal fluids. This conclusion has a solid scientific base and has been well documented in a series of reports by the Rock Deformation Research Unit at Leeds University in the United Kingdom, in conjunction with the AngloGold Ashanti Basin Analysis team, who are credited with making many of the advances in the understanding of the mineralising system.

The fluids precipitated gold and other elements through reactions that took place at elevated temperatures. Migrating liquid and gaseous hydrocarbons precipitated as a solid hydrocarbon (carbon), which was then mesophased through metamorphism and structural deformation. Carbon was preferentially precipitated in bedding parallel fractures that most commonly followed the base of the VR package. Gold was precipitated very soon after the carbon, giving the critical gold-carbon association that characterises many of the high-grade VR localities.

A geological model is employed to delineate variations in characteristics of the VR and CR. The current geological model thus subdivides the VR and CR into homogeneous zones based on geological and grade characteristics.

NW-SE Geological cross-section through Kopanang

-4,000m
-3,500m
-3,000m
-2,500m
-1,500m
-1,000m
-2,000m
1km

Elevation
Witwatersrand Supergroup
West Rand Group
Transvaal Supergroup
Legend
Ventersdorp Lava
Witwatersrand Supergroup
Central Rand Group
Klipriviersberg
Black reef
Platberg
De Hoek fault
Dolomites
Jersey fault
Zuiping E fault
Zuiping fault
Diagonal dyke
Kimberley channel
Kimberley
channel
Vaal Reef
Maraisburg Quartzite
Roodepoort Shales
Roodepoort Quartzite
Roodepoort Shales
Crown Lava
Babrosco
Rietkuil
NW
SE

Mineralisation characteristics
The VR package varies from about 10cm or less in thickness to over 2.5m. It 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 barren interbedded orthoquartzite. The A-Facies is further subdivided into three sub-facies, known as the Bottom, Middle and Top
sub-facies or the tripartite. C-Facies is well developed at Kopanang and is the principal economic horizon of the VR. The C-Facies
consists of a thin, basal pebble lag overlain by pebbly quartzites rather than clast-supported conglomerates. The overlying pebbly
quartzites generally have a low gold content. Elevated gold grades have been known to be associated with well developed and well
packed conglomerates although, at times, these conglomerates may be thin in nature.
The CR 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 is found at the base of the conglomerate.

Exploration

No exploration drilling was carried out at Kopanang during 2017.

Mineral Resource

Details of average drillhole 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
–
–
–
–
Chip sampling stoping
Indicated
100 x 100

–
–
–
–
Underground drilling
Inferred
1,000 x 1,000

–

–
–
–
Surface drilling
Grade/ore control
–
–
–
–
See Measured category
Inclusive Mineral Resource
Kopanang
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
CR
Measured
0.10
11.69
1.16
0.04
Indicated
0.46
14.87
6.91
0.22
Inferred
0.20
18.05
3.63
0.12
Total
0.77
15.29
11.71
0.38
VR Base
Measured
2.01
13.10
26.36
0.85
Indicated
2.87
12.56

36.10
1.16
Inferred
0.77
21.53
16.52
0.53
Total
5.65
13.97
78.98
2.54
VR above infrastructure
Measured
–
–
–
–
Indicated
0.38
8.63
3.29
0.11
Inferred
0.00
7.69
0.02
0.00
Total
0.38
8.63
3.30
0.11
Kopanang
Total
6.80
13.82
93.99
3.02
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SOUTH AFRICA CONTINUED

KOPANANG

Mineral Resource by-product: uranium (U_3O_8)

Kopanang

as at 31 December 2017

Category	**Tonnes million**	**Grade kg/t**	**Contained uranium tonnes**	**pounds million**
Measured	–	–	–	–
Indicated	5.83	0.67	3,921	8.65
Inferred	0.97	0.50	485	1.07
Total	6.80	0.65	4,406	9.71

Estimation

The sampling data used in Mineral Resource estimation includes underground chip samples, underground drillholes and surface drillholes. 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 drillhole and underground sampling data to be used together. Estimation on the VR 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.

Kopanang

Grade tonnage curve underground (metric) (attributable)

Tonnes
above
cut-off
(millions
Average
grade
above
cut-off
(g/t)
8
7
6
5
4
3
2
1
0
30.0
27.5
25.0
22.5
20.0
17.5
15.0
12.5
0
2
6
8
10
14
16
18
20

4
12
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off

Exclusive Mineral Resource

Kopanang Category	Tonnes million	Grade g/t	Contained gold as at 31 December 2017 tonnes	Moz
Measured	1.39	13.74	19.14	0.62
Indicated	3.04	12.59	38.30	1.23
Inferred	0.95	20.95	19.97	0.64
Total	5.39	14.37	77.41	2.49

The exclusive Mineral Resource consists of design and schedule losses, areas for investigation for possible future inclusion in the
Ore Reserve, stabilising pillars not scheduled, areas above infrastructure and marginal gold mineralisation.

Mineral Resource below infrastructure

No Mineral Resource is reported below infrastructure.

Year-on-year changes in the Mineral Resource are mainly due to depletion and structure changes arising from new geological data.

Ounces
(millions)
3.3
3.2
3.1
3.0
2.9
2.8
0.00
0.00
0.00
0.00
0.00

0.00
0.00
-0.08
-0.17
3.27
3.02
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Kopanang year-on-year changes in Mineral Resource
Total (attributable)
Kopanang as a mature deep level gold mine is
very sensitive to changes in gold price as it is
mining with a declining gold grade profile.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
150
125
100
75
50
25
0
-25
-50
-75
Kopanang
Inclusive Mineral Resource sensitivity
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SOUTH AFRICA CONTINUED

KOPANANG

Ore Reserve

Ore Reserve

Kopanang	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017**	
				tonnes	**Moz**
CR	Proved	0.03	3.91	0.11	0.00
	Probable	0.04	3.83	0.15	0.00
	Total	0.07	3.87	0.27	0.01
VR Base	Proved	1.05	5.46	5.71	0.18
	Probable	0.97	5.43	5.28	0.17
	Total	2.02	5.44	10.99	0.35
Kopanang	Total	2.09	5.39	11.26	

0.36
Ore Reserve by-product: uranium (U_3O_8)
Kopanang
as at 31 December 2017

Category	Tonnes million	Grade kg/t	Contained uranium tonnes	pounds million
Proved	1.07	0.34	370	0.82
Probable	1.01	0.33	339	0.75
Total	2.09	0.34	708	1.56

Uranium is produced as a by-product during the processing of gold bearing material. The reef is milled at the Great Noligwa gold plant and processed at the South uranium plan for uranium extraction prior to final gold extraction at the Gold Noligwa gold plant.
Ammonium diuranate (ADU or yellow cake) is the final product of the South 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.
Estimation
Mine design delineates the mining areas and supporting development for each mining level and section, usually by extrapolating the existing mining design based on the geological structure model, taking all relevant mine design recommendations into consideration.
The *in situ* Mineral Resource is scheduled monthly for the full LOM plan. The value estimates for these schedules are derived from the Mineral Resource model.
Modifying factors are applied to the *in situ* Mineral Resource to arrive at an Ore Reserve 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).
Ore Reserve modifying factors
Kopanang
as at 31 December 2017
Gold price

	ZAR/kg	**Cut-off grade g/t Au**	**Cut-off value cm.g/t Au**	**Stoping width cm**	**Dilution %**	**RMF % (based on g/t)**	**MCF %**	**MetRF %**
Kopanang – CR	512,059	9.52	1,000	105.0	58.4	95.4	59.4	95.7
Kopanang – VR Base	512,059	9.52	1,000	105.0	53.9	94.6	69.0	95.6

The metallurgical recovery factor (MetRF) and MCF have remained consistent over the past few years. Historic performance was used in the determination of the modifying factors.

Inferred Mineral Resource in business plan

Kopanang as at 31 December 2017	Tonnes million	Grade g/t	Contained gold tonnes	Moz
VR Base	0.03	7.50	0.20	0.01
Total	0.03	7.50	0.20	0.01

With appropriate caution, a portion of the Inferred Mineral Resource was included in the business plan during the optimisation
process. This accounts for 3.0% of the business plan.

Ore Reserve below infrastructure

No Ore Reserve is reported below infrastructure.

2016 Ore Reserve was used as the basis for the 2017 Ore Reserve, with a year-on-year decrease being shown mainly due to
depletion as well as four scheduled Mineral Resource blocks being removed due to geotechnical information.

Ounces
(millions)
0.50
0.45
0.40
0.35
0.30
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.36
-0.02
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical

Metallurgical
Other
Revenue
factor
Acquisition/
disposal
2017
Kopanang
year-on-year changes in Ore Reserve
Total (attributable)
0.49
-0.11
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Introduction

Property description

Moab Khotsong is the youngest of the South African deep level gold mines with three vertical shaft systems being maintained to service the mine. The orebody is divided into three distinguishable blocks through major faulting. These geographical areas are referred to as Top Mine (Great Noligwa), Middle Mine and Lower Mine (Growth Project).

Location

Moab Khotsong is located near the towns of Orkney and Klerksdorp, about 180km south-west of Johannesburg. The mining lease area lies just south of the Vaal River, which forms a natural boundary between South Africa's North West and Free State provinces.

History

Great Noligwa was merged with Moab Khotsong in 2014 and operations are now collectively referred to as Moab Khotsong. Great Noligwa commenced production in 1968 and Moab Khotsong started producing in 2003.

Legal aspects and tenure

AngloGold Ashanti holds several mining rights in the Klerksdorp area which have been successfully converted, executed and registered as new order mining rights at the MPRTO.

- NW30/5/1/2/2/15MR valid from 12 September 2007 to 11 September 2037
- NW30/5/1/1/2/16MR valid from 20 August 2008 to 19 August 2038

Mining method

The tabular nature, along with the depth and structural complexity of the orebody dictates the mining method utilised at Moab Khotsong. Mining at Moab Khotsong is based on a scattered mining method together with an integrated backfill support system that incorporates bracket pillars. The economic reef horizons are exploited between 1,791m and 3,052m below surface.

Operational infrastructure

Moab Khotsong and Great Noligwa's surface and underground infrastructure, as well as the power and water services, are designed to fully meet the planned LOM production and service capacity requirements. The Vaal River mines have dedicated ore processing plants within close proximity to the mines and tailings are pumped to existing TSFs designed for the Vaal River LOM tailings deposition. A waste rock disposal area is located next to the Moab Shaft infrastructure where waste was deposited via a belt onto the dump. Since January 2017, waste has not been deposited on the waste rock dump and delivered to the plant with the ore.

Mineral processing

Moab Khotsong and Kopanang share the Great Noligwa gold plant with design capacity exceeding the maximum planned production volume from the two mines. The plant uses the reverse gold leach method, whereby gold and uranium are recovered through gold cyanide and acid uranium leaching.

Risks

Geological structural complexity to the north of the Karel Dyke remains a risk until all infill drilling and development has been completed.

Over the past few years changes in key parameters and economic assumptions have reduced the economic viability of the Growth Project. However, ongoing PFS have shown that the project is still economically viable and thus the ounces remains part of the Ore Reserve.

Due to its depth and structural complexity, despite active monitoring and management, seismicity remains a risk that can impact on Ore Reserve.

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Administrative

SOUTH AFRICA CONTINUED
MOAB KHOTSONG
Competent Persons
Moab Khotsong
Category
Competent Person
Professional
organisation
Membership
number
Relevant
experience
Qualification
Mineral Resource
Rebaone Francis Gaelejwe
SACNASP
400207/14
16 years
BSc Hons (Geology)
Ore Reserve
Leanne Brenda Freese
SACNASP
400294/14
20 years
BSc Hons (Geology), GDE
(Mineral Economics)
Geology
Deposit type
The VR is the primary economic horizon at Moab Khotsong and the CR is the secondary economic horizon, which contributes less
than 2% of the total mining volume. Both reefs are narrow tabular deposits forming part of the Witwatersrand Supergroup and are
stratigraphically located near the middle of the Central Rand Group. The VR lies approximately 255m below the CR.
The geology at Moab Khotsong is structurally complex with large fault-loss areas between the three mining areas. The geological
setting is one of crustal extension, dominated by major south-dipping fault systems with north-dipping Zuiping faults wedged
between the south-dipping faults. The De Hoek and Buffels East faults structurally bound the reef blocks of the Middle Mine to the
north-west and south-east respectively. The northern boundary of Moab Khotsong Middle Mine is a north-dipping Zuiping fault.
Extensive drilling is currently underway on the extremities of Middle Mine, targeting potentially preserved blocks. Moab Khotsong
(particularly Middle Mine) requires a reduced drill spacing pattern in the order of 50m x 50m which allows for accurate delineation
of the structurally bound mineable blocks, whereby accurate and efficient mine designs can be implemented ensuring optimal
extraction and maximum orebody utilisation.
VR underground workings
METRES
Project Zaaiplaats

Development tunnels
Stoping
Measured Mineral Resource
Indicated Mineral Resource
Inferred Mineral Resource
Mining Rights boundary
Borehole trace
500
500
1,000
1,500
2,000
0
metres
32
MINERAL RESOURCE AND ORE RESERVE REPORT
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Mineralisation style
The mineralisation model adopted for AngloGold Ashanti's Witwatersrand deposits is that of gold precipitation in the Witwatersrand
conglomerates through the actions of hydrothermal fluids. This is based on well documented scientific studies, in collaboration with
accredited international universities, divning over a period from the early 1990s to present.
The fluids precipitated gold and other elements through reactions that took place at elevated temperatures (300° – 350°C).
Migrating liquid and gaseous hydrocarbons precipitated as a solid hydrocarbon (carbon), which was then mesophased through
metamorphism and structural deformation. Carbon was preferentially precipitated in bedding parallel fractures that most commonly
followed the base of the VR package (A-bottom sub-facies). However, gold and uranium mineralisation is also commonly observed
within the A-middle and A-top sub-facies of the VR. Gold was precipitated very soon after the carbon, giving the critical gold-carbon
association that characterises many of the high-grade VR localities.
A geological model is employed to delineate variations (either lateral or vertical) in characteristics of the VR and CR. The current
geological model thus subdivides the VR and CR into homogeneous zones based on geological and grade characteristics.
Mineralisation characteristics
The VR consists of a thin basal conglomerate (the C-Facies) and a thicker sequence of upper conglomerates (A-Facies). These two
sedimentary facies are separated by the B-Facies, which is a layer of barren orthoquartzite. The A-Facies is the primary economic
horizon at Moab Khotsong. However, 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 an important by-product which is also recovered from the VR.
The CR is mined on a limited scale in the central part of Top Mine where a high-grade, north-south trending sedimentary channel
containing two economic horizons has been exposed. To the east and the west of this channel, the CR is poorly developed with
limited areas containing economical concentrations of gold and uranium. As with the VR, high uranium values are also often
associated with high gold values. A 5mm to 20mm thick carbon seam commonly occurs at the base of the conglomerate. To the
north of the mine, the CR sub-crops against the Gold Estates Conglomerate Formation, and in the extreme south of the mine, the
CR has been eliminated by a deep Kimberley erosion channel and the Jersey fault. The CR that is preserved in the eastern parts of
the Middle Mine has not been proven to be feasible for eventual economical extraction and has therefore not been included into the
published Mineral Resource.
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SOUTH AFRICA CONTINUED
MOAB KHOTSONG

Exploration

Brownfields exploration is focused on improving confidence in the geological model, as well as adding additional Mineral Resource.

Drilling has been executed from surface and underground platforms.

Underground exploration is done through diamond drilling (DD) and utilises a combination of hydraulic and pneumatic powered drill rigs. The exploration strategy adopted for Moab Khotsong to address the structural complexity involves:

- Definition drilling aiming for a 100m x 100m drilling grid for optimal placement of primary haulage and cross-cut development
- Infill drilling aims for a minimum of 50m x 50m drilling spacing for placement of secondary development
- The drill spacing is reduced further in structurally complex areas to reduce the risk of stoping operations intersecting unexpected faults greater than 3m

Drilling in 2017 was primarily used to obtain structural and grade information aimed at upgrading the Mineral Resource and improving the structural confidence of Moab Khotsong. This included below 76 Level drilling on the Top Mine and drilling for the Zuiping C Fault extension on the Middle Mine. All structural information resulting from the completed drilling projects have been incorporated in the geology model. Above 101 drilling and Great Noligwa shaft pillar is planned to continue with two drill rigs each in 2018.

0
400m
0
400m
Witwatersrand Supergroup
West Rand Group
-3,100
-3,200
-3,300
-3,400
-3,500
-3,600
-3,700
-3,800
-3,900
-4,000
Vaal Reef
C - Reef
Fault
Witwatersrand Supergroup
Central Rand Group
Ventersdorp Lava
WNW-ESE Geological cross-section through Moab Khotsong
WNW

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. Current mining areas have been returning
healthy margins exceeding 10%. The adjacent blocks are referred to as the Growth Project being the Lower Mine blocks (Zaaiplaats,
Area A, B and C), positioned to the south-west of the current Moab Khotsong infrastructure and extending below the existing
mine. Over the past few years, changes in key parameters and economic assumptions have reduced the economic viability of the
Growth Project. However, the project remains economic overall and the project and the ounces remain part of the LOM and the
Ore Reserve.

Mineral Resource

Details of average drillhole 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
Inclusive Mineral Resource
Moab Khotsong
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
VR Lower Mine Growth Project
Measured
–
–
–
–
Indicated
12.91
16.64
214.86
6.91
Inferred
7.04
15.99
112.47
3.62
Total
19.95
16.41
327.33
10.52
VR – Middle Mine
Measured
1.51
22.59
34.08
1.10
Indicated
3.48
21.68
75.41
2.42
Inferred
0.32
18.91

6.11
0.20
Total
5.31
21.77
115.61
3.72
VR – Top Mine
Measured
0.26
14.83
3.89
0.13
Indicated
0.91
11.94
10.85
0.35
Inferred
0.24
13.60
3.27
0.11
Total
1.41
12.76
18.00
0.58
VR – Great Noligwa
Measured
0.69
17.09
11.76
0.38
Indicated
0.33
13.65
4.52
0.15
Inferred
0.01
14.56
0.18
0.01
Total
1.03
15.96
16.45
0.53
VR – Great Noligwa shaft pillar
Measured

0.08
16.09
1.36
0.04
Indicated
1.16
14.98
17.37
0.56
Inferred
0.23
14.74
3.32
0.11
Total
1.47
15.00
22.05
0.71
CR – Great Noligwa
Measured
0.01
18.20
0.22
0.01
Indicated
0.24
18.72
4.56
0.15
Inferred
0.16
17.50
2.75
0.09
Total
0.41
18.24
7.53
0.24
Moab Khotsong
Total
29.58
17.14
506.98
16.30
35
Introduction
South Africa
Continental Africa
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SOUTH AFRICA CONTINUED
MOAB KHOTSONG
Mineral Resource by-product: uranium (U_3O_8)

Moab Khotsong as at 31 December 2017 Category	**Tonnes million**	**Grade kg/t**	**Contained uranium tonnes**	**pounds million**
Measured	–	–	–	–
Indicated	21.59	0.82	17,646	38.90
Inferred	7.99	0.84	6,722	14.82
Total	29.58	0.82	24,369	53.72

Estimation

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 wide-spaced drillhole and dense underground sampling data to be used together. Estimation on the VR is performed into large block sizes, generally >300m x 300m, 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.

Exclusive Mineral Resource

Moab Khotsong
Category
Tonnes
million

		Grade g/t	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	1.27	19.18	24.39	0.78
Indicated	9.66	15.71	151.81	4.88
Inferred	4.71	15.42	72.70	2.34
Total	15.65	15.91	248.90	8.00

The bulk of the exclusive Mineral Resource is situated in Middle and Lower Mines and consists primarily of designed bracket pillars and dip pillars. The remaining areas are below the Ore Reserve cut-off and with an increase in gold price will be considered as possible future Ore Reserve.

Mineral Resource below infrastructure

Moab Khotsong

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	0.04	11.66	0.42	0.01
Indicated	15.32	16.86	258.28	

8.30
Inferred
7.31
15.75
115.03
3.70
Total
22.66
16.50
373.74
12.02
Moab Khotsong
Grade tonnage curve underground (metric) (attributable)
Tonnes
above
cut-off
(millions
Average
grade
above
cut-off
(g/t)
35
30
25
20
15
10
5
0
32
30
28
26
24
22
20
18
16
0
2
6
8
12
14
16
20
18
4
10
Cut-off grade (g/t)

Tonnes above cut-off
Average grade above cut-off

Ounces
(millions)
18.0
17.5
17.0
16.5
16.0
15.5
0.00
0.00
0.00
0.00
0.00
-0.59
-0.41
-0.20
0.01
17.49
16.30
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Moab Khotsong year-on-year changes in Mineral Resource
Total (attributable)
Moab Khotsong is not sensitive to changes in
gold price due to the structurally constrained
nature of the orebody.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
3
2
1
0
-1
-2
-3

-4

Moab Khotsong

Inclusive Mineral Resource sensitivity

The Mineral Resource below infrastructure is situated in Lower Mine Growth Project, Top Mine below 76 Level and Middle Mine below 101 Level.

Changes to the Mineral Resource are primarily a result of depletion and reclassification of Mineral Resource based on new structural information.

SOUTH AFRICA CONTINUED
MOAB KHOTSONG
Ore Reserve
Ore Reserve
Moab Khotsong
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
VR Lower Mine Growth Project
Proved
–
–
–
–
Probable
13.12
8.24
108.14
3.48
Total
13.12
8.24
108.14
3.48
VR – Middle Mine
Proved
1.19
11.54
13.79
0.44
Probable
1.82
11.04
20.04
0.64
Total
3.01
11.24
33.82
1.09
VR – Top Mine
Proved
0.11
6.83
0.78

0.03
Probable
0.15
5.60
0.83
0.03
Total
0.26
6.13
1.62
0.05
VR – Great Noligwa
Proved
0.69
6.59
4.56
0.15
Probable
0.27
5.56
1.48
0.05
Total
0.96
6.31
6.04
0.19
CR – Great Noligwa
Proved
0.02
7.89
0.13
0.00
Probable
0.26
6.96
1.83
0.06
Total
0.28
7.01
1.96
0.06
Moab Khotsong
Total
17.63
8.60
151.57
4.87
Ore Reserve by-product: uranium (U_3O_8)
Moab Khotsong

as at 31 December 2017

Category	**Tonnes million**	**Grade kg/t**	**Contained uranium tonnes**	**pounds million**
Proved	2.02	0.27	540	1.19
Probable	15.62	0.32	4,950	10.91
Total	17.63	0.31	5,490	12.10

Uranium is produced as a by-product during the processing of reef material. The reef is milled at the Great Noligwa gold plant and processed at the South uranium plant for uranium oxide extraction prior to gold extraction at the Great Noligwa gold plant.

ADU or yellow cake is the final product of the South uranium plant, which is transported to Nufcor located in Gauteng where the material is calcined and packed for shipment to the converters.

Estimation

Mine design delineates the mining areas and supporting development for each mining level and section, usually by extrapolating the existing mining design based on the geological structure model taking all relevant mine design recommendations into consideration.

The *in situ* Mineral Resource is scheduled monthly for the full LOM plan. The value estimates for these schedules are derived from the Mineral Resource model.

Modifying factors are applied to the *in situ* Mineral Resource to arrive at an Ore Reserve estimate. These factors include a dilution factor to accommodate the difference between the milling width and the stoping width, as well as the MCF.

Ore Reserve modifying factors
Moab Khotsong
as at 31 December 2017

	Gold price ZAR/kg	Cut-off grade g/t Au	Cut-off value cm.g/t Au	Stoping width cm	Dilution %	MCF %	MetRF %
VR Lower Mine Growth Project	512,059	6.20	750	121.0	53.8	77.9	96.5
VR – Middle Mine	512,059	4.71	750	159.4	52.2	78.0	97.1
VR – Top Mine	512,059	4.31	750	174.0	54.0	78.0	93.9
VR – Great Noligwa	512,059	4.31	750	173.9	59.2	61.1	

94.0
CR – Great Noligwa
512,059
6.21
750
120.8
61.4
61.0
94.1
Historic performance was used in the determination of the modifying factors used in the estimation of the Ore Reserve.
Inferred Mineral Resource in business plan
Moab Khotsong
as at 31 December 2017
Tonnes
million
Grade
g/t
Contained gold
tonnes Moz
VR Lower Mine Growth Project
5.13
7.57
38.85
1.25
VR – Middle Mine
0.30
8.43
2.57
0.08
VR – Top Mine
0.00
13.98
0.05
0.00
VR – Great Noligwa
0.01
5.08
0.06
0.00
CR – Great Noligwa
0.12
6.62
0.77
0.02
Total
5.57
7.60
42.29
1.36
Ore Reserve below infrastructure

Moab Khotsong
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Proved
–
–
–
–
Probable
13.12
8.24
108.14
3.48
Total
13.12
8.24
108.14
3.48
All of the Ore Reserve below infrastructure is from the VR Lower Mine Growth Project.
Ounces
(millions)
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3.8
0.00
0.00
0.00
0.00
0.00
4.87
-0.01
-0.31
-0.63
0.81
0.00
5.00
2016
Depletion
Exploration

Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue
factor
Acquisition/
disposal
2017

Moab Khotsong year-on-year changes in Ore Reserve

Total (attributable)

Changes in Ore Reserve are due to depletion offset by technical design and scheduling changes. Geological model changes were
the main contributor to a decrease in the Ore Reserve due to structural discount changes in the Mineral Resource classification,
offset by the inclusion of portions from areas A and B into the Ore Reserve resulting in a net gain.

Introduction

Property description

Mponeng is a deep level gold mine operating between 3,160m and 3,740m below mine datum (BMD) and is currently the deepest mine in the world with development at 3,841m BMD. Future mining is planned to deepen the shaft bottom to 4,227m BMD. All production is currently from VCR with future expansion on both VCR and the CLR horizons.

Location

The West Wits operations are a combination of TauTona, Savuka and Mponeng. Situated south of the TauTona, Mponeng is near the town of Carletonville and approximately 65km west of Johannesburg.

History

Formerly known as the Western Deep Levels South Shaft, or No.1 Shaft, Mponeng mine is the most recently sunk of the three mines in the West Wits operations. The original twin shaft sinking from surface commenced in 1981 and was commissioned along with the gold plant complex in 1986 when mining began. Production started through the use of two hoisting shafts, a sub-shaft and two service shafts. The name changed to Mponeng mine in 1999.

In 2017, Savuka and TauTona commenced orderly closure and their remaining Mineral Resource and Ore Reserve was transferred to Mponeng.

Legal aspects and tenure

AngloGold Ashanti holds the following mining right in the Mponeng area which has been successfully converted, executed and registered as new order mining rights at the MPRTO.

- GP30/5/1/2/2(01)MR valid from 14 February 2006 to 13 February 2036, covering 64.8km^2
- GP30/5/1/2/2(11)MR valid from 11 July 2006 to 1 July 2016, covering 0.3km^2 (application for extension pending)
- GP30/5/1/2/2(248)MR valid from 16 October 2012 to 15 October 2022, covering 1.96km^2

S102 application was submitted In March 2017 to consolidate the three licences into the mining right (01MR).

Mining method

For the exploitation of the ever deepening Mineral Resource and the need for flexibility on a mine of this nature, the sequential grid mining method was adopted. This has been proven as the best method suited to safe deep level gold mining often associated with seismicity.

Operational infrastructure

Mponeng has its own processing plant situated adjacent to the mine. Ore and waste material is hoisted separately with ore being delivered to the plant by means of a conveyor belt and the waste rock going to the low grade stockpile.

Mineral processing

Ore mined is treated and smelted at Mponeng's gold plant, which also processes low grade ore from the stockpile adjacent to the shaft.

The ore is initially ground down by means of semi-autogenous milling after which a conventional gold leach process incorporating liquid oxygen injection is applied. The gold is then extracted by means of carbon-in-pulp (CIP) technology. The plant conducts electro-winning and smelting (induction furnaces).

Risks

Upgrading of the Mineral Resource confidence of the deeper parts of Mponeng continues to be challenging. Surface exploration and underground exploration targets are slowly being completed but access to ground ahead of the mining front is often limited. New information, once obtained, does have the potential to affect the future of Mponeng mine. Exploration drilling on the VCR at depth is indicating that there might be an evolution of the current geological understanding. This will

be further quantified and understood as exploration work continues.
Seismicity, which is associated with ultra deep level mining, remains the most significant risk to the execution of the mine plan. The risk is managed through ongoing seismic risk management, which then informs the mining strategy and execution schedule.
An independent external Mineral Resource and Ore Reserve audit was undertaken in 2017 and found no fatal flaws in process or output.

SOUTH AFRICA CONTINUED
MPONENG
Competent Persons
Mponeng
Category
Competent Person
Professional
organisation
Membership
number
Relevant
experience
Qualification
Mineral Resource
Gareth Flitton
SACNASP
400019/15
14
BSc Hons (Geology), GDE
(Mineral Economics)
Ore Reserve
William Herman Olivier
SAGC
MS 0136
27
GDE (Mining Engineering)
VCR West Wits underground workings
Measured Mineral Resource
Indicated Mineral Resource
Inferred Mineral Resource
Boreholes
Mining Rights area boundary
Development tunnels
Stoping
0
1,000
2,000
metres
42
MINERAL RESOURCE AND ORE RESERVE REPORT
2017
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Geology

Deposit type

The VCR is the main reef horizon mined at Mponeng mine. 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
periods of uplift and erosion, controlled the development and preservation of the VCR, which 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 are of lower value and become more prevalent on
the higher terraces and on the harder footwall units.

The relatively argillaceous protoquartzites of the Kimberley Formation in the central portion of Mponeng are covered by the best
preserved VCR conglomerates. The Elsburg formation in the west is relatively more durable while the eastern side of the mine is
dominated by shales and siltstones of the Booysens Formation. No VCR is preserved on the Krugersdorp Formation on the far
eastern side of Mponeng.

The CLR is the other gold bearing reef reported as part of the total Mineral Resource for Mponeng. The CLR is located near the
base of the Johannesburg Subgroup, which forms part of the Central Rand Group of the Witwatersrand Supergroup of rocks.

CLR West Wits underground workings

Measured Mineral Resource

Indicated Mineral Resource

Inferred Mineral Resource

Boreholes

Mining Rights area boundary

Development tunnels

Stoping

0

1,000

2,000

metres

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SOUTH AFRICA CONTINUED

MPONENG

The CLR and VCR at Mponeng mine are separated by approximately 900m of shales and quartzites. The CLR has historically been mined extensively at Savuka and TauTona mines and the remaining portions thereof have now been transferred to Mponeng mine.

The CLR in the West Wits consists of, on average, a 20cm thick, tabular, auriferous quartz pebble conglomerate and three sedimentary facies. Economically, the most important facies is Unit 1, which overlies Unit 2. Unit 1 is a complex channel deposit that is only present along the eastern side of the West Wits lease area. Unit 2 can be up to 2m thick. Unit 3 is exposed in the southern edges of the lease area and is the oldest of the conglomerates.

Mineralisation style

Gold mineralisation followed an episode of deep burial, fracturing and alteration. A variant of Archaean gold bearing hydrothermal fluid was introduced into the conglomerates and circulated throughout in hydrothermal cells. The fluids precipitated gold and other elements through reactions that took place at elevated temperatures along the reef horizon, which was the more favorable fluid conduit. In the case of the VCR, the resulting gold grades are mostly uniformly distributed throughout the reef package. In the CLR, solid hydrocarbon precipitated in thin, flat veins, usually at the base of the Carbon Leader conglomerate, where the majority of the gold is concentrated.

E
W
Savuka Shaft
TauTona Shaft
1,000m
Ventersdorp Contact Reef
Bird Reef
Middelvlei Reef
Carbon Leader Reef
Black Reef
Malmani Subgroup
Black Reef Formation
Klipriviersberg Group
Elsberg Formation
Kimberley Formation
Booysens Formation
Pretoria Group
Legend
Krugersdorp Formation
Luipaardsvlei Formation
Randfontein Formation
Main Formation
Blyvooruitzicht Formation
Maraisburg Formation
Roodepoort Formation

Crown Formation
Babrosco Formation
Fault
Dyke
E-W Geological cross-section through Savuka and TauTona shafts

Mineralisation characteristics

The VCR displays strong alteration features, which can be explained by the hydrothermal fluids that infiltrated the reef at some stage and have overprinted on the original mineral assemblage. Portions of the reef contain authigenic sulphides such as pyrite, pyrrhotite, chalcopyrite, spahelerite and galena, incorporated in the conglomerate matrix. Gold associations with these mineral assemblages indicate a strong correlation of gold mobilisation and redistribution at the time of the hydrothermal fluid influx. There is also a strong association of gold with a chloritisation event focused along the reef horizon. The cholrite alteration gives a dark coloration to the reef.

Gold was precipitated by cooling and reactions between the fluids and wallrock, in this case pyritic conglomerates. Gold mineralisation was enhanced in certain areas of high fluid throughput, which were often the sites of high carbon precipitation and early alteration in the case of the CLR.

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, a key objective of AngloGold Ashanti mine geologists is to identify these geological features ahead of the working face to assist with deciding on the best way to approach and mine through these structures.

Exploration

Underground exploration in 2017 targeted the VCR areas to the east of the mine and south, down dip of the current mining on 123 and 126 levels. New reef intersections were achieved during 2017 and have been included in the evaluation of the geological model.

No CLR exploration was possible during 2017 due to the limitation of suitable drill sites at TauTona.

The surface drillholes UD60 and UD58A were completed and deflection drilling and assays were finalised in 2017 confirming the existence of a well developed VCR in the deeper reaches of the orebody. Both sites were rehabilitated in 2017. The new surface drilling contract was also completed and the piloting of the 2 new deep surface holes, UD61 and UD63, started late in 2017.

Surface drilling into the central and southern portions of the Western Ultra-deep Levels (WUDLs) lease area will continue in 2018 and will explore the central portion of the WUDLs lease area. Results of which are expected in 2020 or 2021.

Projects

The Phase 1 VCR project is in production on 123 Level and is still accessing reef on 126 Level. On reef development continues east and west and total production is expected to ramp up to 12,000m^2 per month.

The Mponeng LOM extension project PFS was reviewed and approved to progress to FS in February 2017. The PFS determined that the best business case is achieved by accessing the CLR orebody as well as the VCR orebody below current Mponeng infrastructure to 136 Level (4,138m BMD). The LOM extension project scope of work replaces the phased project approach by combining the phase 2 project with phases 3 and 4 into one project to access 9.5Moz and to extend the LOM to 2048. The project

infrastructure consists of a ramp to access the first three levels while the sub shafts are deepened to establish permanent logistic
infrastructure for the six new mining levels.
The FS is in progress and the project proposal will be presented to the Board towards the latter half of 2018.

Mineral Resource

Details of average drillhole spacing and type in relation to Mineral Resource classification

Mponeng

Category	**Spacing m (-x-)**	**Diamond**	**RC**	**Blasthole**	**Channel**	**Other**	**Comments**
		Type of drilling					
Measured	5 x 5	–	–	–	–		Chip sampling stoping
Indicated	100 x 100	–	–	–	–		Underground drilling
Inferred	1,000 x 1,000	–	–	–	–		Surface and underground drilling
Grade/ore control		–	–	–	–		See Measured category

SOUTH AFRICA CONTINUED
MPONENG
Inclusive Mineral Resource

Mponeng	Category	Tonnes million	Grade g/t	Contained gold as at 31 December 2017 tonnes	Moz
VCR Block 3	Measured	0.03	10.11	0.35	0.01
	Indicated	3.45	5.29	18.23	0.59
	Inferred	–	–	–	–
	Total	3.48	5.34	18.57	0.60
TauTona VCR 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
VCR Above 109 Level
Measured
0.96
12.21
11.71
0.38
Indicated
0.68
10.77
7.34
0.24
Inferred
–
–
–
–
Total
1.64
11.62
19.05
0.61
VCR 109 to 120 Level
Measured
3.44
17.15
58.93
1.89
Indicated
3.98
13.24
52.77
1.70
Inferred
0.22
4.01
0.87
0.03
Total
7.64
14.74
112.57
3.62
VCR Below 120 Level
Measured
0.58
18.04
10.43

0.34
Indicated
9.50
15.59
148.02
4.76
Inferred
0.72
4.75
3.41
0.11
Total
10.79
15.00
161.87
5.20
VCR LOM extension 128 Level
Measured
–
–
–
–
Indicated
2.13
16.13
34.35
1.10
Inferred
0.10
4.54
0.45
0.01
Total
2.23
15.62
34.80
1.12
VCR WUDLs
Measured
–
–
–
–
Indicated
9.97
18.21
181.55
5.84
Inferred
9.36
12.94

121.16
3.90
Total
19.33
15.66
302.71
9.73
TauTona CLR shaft pillar
Measured
0.37
45.67
16.81
0.54
Indicated
1.18
44.50
52.32
1.68
Inferred
–
–
–
–
Total
1.54
44.78
69.13
2.22
TauTona CLR eastern block
Measured
1.37
24.58
33.73
1.08
Indicated
1.71
22.26
38.05
1.22
Inferred
–
–
–
–
Total
3.08
23.29
71.78
2.31
CLR LOM extension project
Measured

0.34
22.73
7.77
0.25
Indicated
28.23
20.08
566.97
18.23
Inferred
8.00
16.90
135.27
4.35
Total
36.57
19.41
710.01
22.83
CLR Savuka
Measured
0.01
15.08
0.13
0.00
Indicated
1.51
13.20
19.99
0.64
Inferred
–
–
–
–
Total
1.52
13.21
20.12
0.65
Mponeng
Total
89.55
17.35
1,554.29
49.97

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Exclusive Mineral Resource

Mponeng			**Contained gold**	
Category	**Tonnes million**	**Grade g/t**	**as at 31 December 2017 tonnes**	**Moz**
Measured	6.08	21.69	131.88	4.24
Indicated	22.48	28.47	639.88	20.57
Inferred	9.31	17.18	159.88	5.14
Total	**37.87**	**24.60**	**931.65**	**29.95**

Mponeng

Grade tonnage curve underground (metric) (attributable)

Tonnes
above
cut-off
(millions)
Average
grade
above
cut-off
(g/t)
100
90
80
70
60
50
40
30
20

10
0
27
26
25
24
23
22
21
20
19
18
17
16
0
2
6
8
12
14
16
20
18
4
10
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Mineral Resource by-product: uranium (U_3O_8)
Mponeng
as at 31 December 2017
Category
Tonnes
million
Grade
kg/t
Contained uranium
tonnes pounds million
Measured
–
–
–
–
Indicated
34.72
0.31
10,652
23.48
Inferred
8.00
0.29

2,358
5.20
Total
42.72
0.30
13,010
28.68
Estimation
Gold values have been shown to be intimately related to conglomerate preservation of the VCR and form an integral part of the
geological model, as does the footwall lithology.
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 drillhole and underground sampling data to be used
together. Estimation is performed on the VCR 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.

SOUTH AFRICA CONTINUED
MPONENG
Ounces
(millions)
50.5
50.0
49.5
49.0
48.5
48.0
47.5
47.0
0.00
0.00
0.00
-1.37
-0.29
-0.46
2.07
50.03
49.97
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Mponeng year-on-year changes in Mineral Resource
Total (attributable)
0.00
0.00
Current mining practice at the West Wits operations leaves behind a large portion of the Mineral Resource as stability pillars. Rock
engineering design models require stability to minimise the effects of mining induced seismicity on the deep underground workings.
Bracket pillars are also placed around all major geological structures to improve regional stability and to minimise the structure
associated risks. In 2017, a large part of these pillars have been reclassified and removed from the Mineral Resource statement as
they will not be eventually extracted and must remain *in situ* as part of the stability pillar strategy to reduce the impact of seismicity.
Other areas of the Mineral Resource that do not form part of the LOM include the areas between the Mineral Resource and Ore
Reserve cut-offs.
Mineral Resource below infrastructure

Mponeng

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	0.34	22.73	7.77	0.25
Indicated	38.20	19.60	748.52	24.07
Inferred	17.36	14.77	256.43	8.24
Total	55.90	18.12	1,012.72	32.56

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.
Year-on-year the Mponeng's published Mineral Resource decreased slightly. The transfer of Mineral Resource from TauTona and
Savuka as well as the addition of the phases 4 and 6 project areas under the LOM extension project resulted in an increase.
This was offset by depletion and a revision to the geological modelling and estimated content due to updates of the model
methodology on the back of data updates and trends observed.

1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
15
10
5

0
-5
-10
-15
-20
Mponeng
Inclusive Mineral Resource sensitivity
As a deep underground mine, the Mineral Resource at Mponeng is sensitive to a drop in gold price.

Ore Reserve
Ore Reserve
Mponeng
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
TauTona VCR shaft pillar
Proved
0.11
9.92
1.10
0.04
Probable
0.26
9.70
2.54
0.08
Total
0.37
9.77
3.64
0.12
VCR above 109 Level
Proved
0.03
6.42
0.17
0.01
Probable
0.05
5.77
0.29
0.01
Total
0.08
6.00
0.46
0.01
VCR 109 to 120 Level
Proved
0.41
7.10
2.94
0.09
Probable

0.90
7.68
6.95
0.22
Total
1.32
7.50
9.89
0.32
VCR below 120 Level
Proved
0.51
9.47
4.82
0.15
Probable
6.18
11.74
72.50
2.33
Total
6.68
11.57
77.32
2.49
VCR LOM extension 128 Level
Proved
–
–
–
–
Probable
1.50
9.11
13.68
0.44
Total
1.50
9.11
13.68
0.44
VCR WUDLs
Proved
–
–
–
–
Probable
5.79
10.01
57.94

1.86
Total
5.79
10.01
57.94
1.86
TauTona CLR shaft pillar
Proved
0.02
18.23
0.31
0.01
Probable
0.21
21.37
4.40
0.14
Total
0.22
21.13
4.71
0.15
TauTona CLR eastern block
Proved
0.42
8.69
3.66
0.12
Probable
1.46
9.86
14.36
0.46
Total
1.88
9.60
18.02
0.58
CLR LOM extension project
Proved
–
–
–
–
Probable
19.86
9.39
186.42
5.99
Total
19.86

9.39
186.42
5.99
CLR Savuka
Proved
0.01
6.19
0.03
0.00
Probable
1.00
6.16
6.18
0.20
Total
1.01
6.16
6.21
0.20
Mponeng
Total
38.71
9.77
378.28
12.16
Estimation
The mine design process delineates the mining areas and supporting development for each mining level and section, usually
by extrapolating the existing mining design using the latest geological structure models, taking all relevant mine design
recommendations into consideration. The *in situ* Mineral Resource is scheduled monthly for the full LOM plan. The value estimates
for these schedules are derived from the Mineral Resource model.
Modifying factors are applied to the *in situ* Mineral Resource to arrive at an Ore Reserve estimate. These factors include a dilution
factor to accommodate the difference between the milling width and the stoping width, as well as the MCF.

SOUTH AFRICA CONTINUED

MPONENG

Ore Reserve modifying factors

Mponeng **as at 31 December 2017**	**Gold price ZAR/kg**	**Cut-off grade g/t Au**	**Cut-off value cm.g/t Au**	**Stoping width cm**	**Dilution %**	**MCF %**	**MetRF %**
TauTona VCR shaft pillar	512,059	4.17	750	180.0	39.7	81.0	97.5
VCR Above 109 Level	512,059	4.97	750	150.9	37.7	81.0	97.9
VCR 109 to 120 Level	512,059	4.98	750	150.6	38.0	81.0	97.8
VCR Below 120 Level	512,059	5.74	750	130.7			

41.2
81.0
98.1
VCR LOM extension project
512,059
5.65
750
132.7
47.2
83.0
97.9
VCR WUDLs
512,059
5.69
750
131.7
43.2
83.0
98.1
TauTona CLR shaft pillar
512,059
6.82
750
110.0
42.5
78.0
97.5
TauTona CLR eastern block
512,059
6.25
750
120.0
45.5
75.5
97.2
CLR LOM extension project
512,059
6.82
750
110.0
46.8
81.0
97.1
CLR Savuka
512,059
6.82
750
110.0
48.6
81.0
96.5

MCF is based on historic performance with consideration for current and future mining conditions.

Inferred Mineral Resource in business plan

Mponeng **as at 31 December 2017**	**Tonnes** **million**	**Grade** **g/t**	**Contained gold** **tonnes**	**Moz**
VCR WUDLs	2.52	10.10	25.42	0.82
CLR LOM extension project	0.44	8.40	3.74	0.12
Total	2.96	9.84	29.16	0.94

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 Mineral Resource are located in the WUDLs area beyond current infrastructure on the VCR (LOM extension project and phase 5) and also make up part of the CLR Mineral Resource is included in the CLR LOM extension and phase 6 project.

Ore Reserve below infrastructure

Mponeng **Category**	**Tonnes** **million**	**Grade** **g/t**	**Contained gold** **as at 31 December 2017** **tonnes**	**Moz**
Proved	0.01	6.19	0.03	0.00
Probable	28.15	9.38		

264.22
8.49
Total
28.16
9.38
264.25
8.50
The Ore Reserve below infrastructure comprise the LOM extension CLR and VCR project areas that are currently the subject of a FS.

The decrease of 2.6% in Ore Reserve is mainly due to the net effect of depletion, a revised estimation model for the VCR, the
impact of the redesigned CLR project area and geotechnical changes which has been offset by the inclusion of the VCR in the LOM
extension project and transfer of Ore Reserve from TauTona post orderly closure of the shaft.

Ounces
(millions)
15
14
13
12
11
10
0.00
0.00
0.00
0.00
12.16
-2.69
-0.16
-0.24
2.29
0.49
0.00
12.48
2016
Depletion
Exploration
Methodology
Gold
price
Cost
Geotechnical
Metallurgical
Other
Revenue
factor
Acquisition/
disposal
2017

Mponeng year-on-year changes in Ore Reserve

Total (attributable)

51

Introduction

Property description

Surface Operations produce gold by processing surface material such as low grade stockpiles and the retreatment of TSFs. Surface Operations comprise Vaal River Surface, West Wits Surface and MWS.

Location

The Vaal River Surface operations are located immediately to the north and south of the Vaal River, close to the town of Orkney in the North West province. These operations extract gold from the low grade stockpile material emanating as a by-product of the reef mining activities within the Vaal River mines. The MWS operations are located approximately 15km from the town of Klerksdorp near Stilfontein within 20km of the Vaal River Surface operations. The MWS feed sources (TSFs) are scattered over an area that stretches approximately 13.5km north-south and 14km east-west. The West Wits Surface operations are located near the town of Carletonville, across the border between the North West and Gauteng provinces.

History

Gold from surface material has been produced routinely since 2002. AngloGold Ashanti acquired the MWS Mineral Resource and tailings retreatment operations in the Vaal River region in July 2012. The MWS uranium and flotation plants were commissioned in 2014. Changes were made to the configuration of the flotation and uranium processes after which the float plant was recommissioned in July 2016 and the uranium plant in October 2016. These plants were reconfigured into an even more efficient configuration during 2016. As part of the optimisation in 2017, the uranium and flotation plants were discontinued. It is planned for restart later in life.

Legal aspects and tenure

MWS's licence to mine is covered by the environmental authorisation under the National Environmental Management Act No. 107 of 1998. In terms of the current legislation, Mineral and Petroleum Resources Development Act No. 28 of 2002 (MPRDA), it is not required to have a mining right to reclaim TSFs and MWS can prove ownership and tenure of the operations. As it is likely that pending legislation, once passed, will require a mining right to be obtained in order to mine TSFs, AngloGold Ashanti applied in May 2013, in terms of S102 of the MPRDA to extend its main Vaal River mining right (16MR) to incorporate the entire MWS operation. The S102 consent was granted under the main VR mining right (16MR).

The new order mining rights for the South African operations cover multiple horizons, i.e. both underground and surface for Vaal River and West Wits regions. The TSFs falling outside the mining right are accommodated under historic surface rights permits for Vaal River and West Wits, which are still valid.

Mining method

Low grade stockpiles

Bulldozers are used to create safe loading faces. The material is then loaded from the face onto rail hoppers or trucks by means of front-end loaders and transported to the relevant gold plants for processing.

TSFs

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 pump 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 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 it will be pumped to the processing plants.

South Africa
Continental Africa
Australasia
Americas
Administrative

SOUTH AFRICA CONTINUED

SURFACE OPERATIONS

Operational infrastructure

Low grade stockpiles in the Vaal River area are processed through dedicated surface sources metallurgical plants while tailings material in the Vaal River and MWS areas are processed through the three streams at the MWS metallurgical operations. At West Wits, material from both low grade stockpiles and TSF is processed through the Savuka gold plant. Low grade stockpile material is processed through the Mponeng gold plant to fill the processing gap and to ensure adequate supply of backfill material. Adequate deposition capacity for the Surface Operations exists in all areas. Operational infrastructure road, rail, offices, security services, water and power supply is adequate, and is shared with the AngloGold Ashanti mines in the relevant areas.

Mineral processing

The mineral process is dependent on the source material: tailings material is pumped directly to a conventional carbon-in-leach (CIL) plant while hard rock material will go through comminution first, and then be processed through leach followed by CIP.

MWS comprises three separate streams namely Stream 1, Stream 2 and Stream 3. Hydraulically-reclaimed material from several TSF sites is pumped to the MWS plant streams for gold extraction.

The West Wits Surface Operations process low grade stockpile material sourced from the mining of the CLR and the VCR that are mined by the West Wits mines in the Carletonville/Fochville area, as well as hydraulically-reclaimed material from the Old North TSF.

Within the Vaal River area, the Kopanang, West and Mispah gold plants are dedicated surface operation plants. In the West Wits area, the Savuka gold plant is dedicated to process surface sources material while low grade stockpile material is processed through Mponeng gold plant to fill the processing gap.

Risks

There are no known unmanaged risks that may affect reclamation activities.

Vaal River Surface Sources infrastructure

Stilfontein

Moab Khotsong

Mine Waste Solutions

Kopanang

Orkney

Khuma

township

Great Noligwa

Klerksdorp

West

Complex

Harties 5&6

MWS5

Kareerand

Buffels

1,2,3,4

Sulphur

Paydam

East

South

East

Buffels 5

MWS2

MWS4

West Ext
Harties 1&2
Mispah
Kopanang
Paydam
Great Noligwa
plant centroid co-ordinates
26°46’44”E, 26°57’44”S
Licences
Roads
Mine Infrastructure
Settlement
Mining rights
AGA property
Mine area
Plant
Stockpiles
TSF
Shaft
Villages
Main
Secondary
Towns
3
0
3
6
9km
54
MINERAL RESOURCE AND ORE RESERVE REPORT
2017
Introduction
South Africa
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Competent Persons
Surface Operations
Category
Competent Person
Professional
organisation
Membership
number
Relevant
experience
Qualification
Mineral Resource:
Vaal River Surface,
Mine Waste Solutions
Mmatseleng Sophy Maipushi
SACNASP
114 390
7 years
BSc Hons (Geology)
Mineral Resource:
West Wits Surface
Raymond Orton
SAGC
MS 0132
31 years
GDE (Mineral Economics),
Government Certificate of
Competency in Mine Survey,
HND (Mineral Resource
Management)
Ore Reserve:
Surface Operations
Mariaan Gagiano
SAIMM
705 920
33 years
Government Certificate of
Competency in Assaying
West Wits Surface Sources infrastructure
Fochville
Mponeng
New North TSF
TauTona
Savuka
Old North TSF
Mine
Mponeng TSF
Mponeng plant
centroid co-ordinates
27°26’06”E, 26°26’11”S
Licences

Mining
Surface property
Mine area
Plant
Stockpiles
TSF
Shaft
Villages
Main
Secondary
Towns
Mine Infrastructure
Roads
Settlement
Fochville
1.5
1.5
0
3km
55
Introduction
South Africa
Continental Africa
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Geology
The material contained in the TSFs and low grade stockpiles originates from the historic ore-bearing reefs mined by the West Wits,
Vaal River, Buffelsfontein, Hartebeestfontein and Stilfontein gold mines.
Low grade stockpiles
The low grade stockpiles 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 intersected while accessing the primary reef
- Gold-bearing reef that was contained within small fault blocks that were exposed by off-reef development
- Cross-tramming of gold-bearing reef material to the waste tips

TSFs
The TSFs consist of tailings material which originated from the processing of the underground ore from the Vaal River operations
(Vaal Reef Surface), the West Wits operations (West Wits Surface) and Buffelsfontein, Hartebeestfontein and Stilfontein gold mines
(MWS). These gold mines are deep level gold mines, which predominantly extract the tabular, conglomeratic VR, CLR and VCR.
The VR has been predominantly mined for gold in the past although the reef also contains uranium oxide. The same is true but, to a
lesser extent, with the CLR and VCR. The material contained in the TSFs is fine in nature. The footprints of the MWS TSFs and Vaal
River Surface operations TSFs cover an area of approximately 1,100ha.

Projects
MWS deposition takes place on Kareerand. The capacity of the Kareerand TSF will become a constraint on the throughput of
MWS as of the first half of 2021. To alleviate this, a project is being evaluated to expand the capacity of the Kareerand TSF.
A PFS is being done to establish the best option for expanding the capacity, and confirming the technical and financial viability of
the project. Work on applying for the permits required to construct the TSF extension has begun.

Mineral Resource
Details of average drillhole spacing and type in relation to Mineral Resource classification
(1)

Surface Operations	**Category**	**Spacing m (-x-)**	**Diamond**	**RC**	**Blasthole**	**Channel**	**Other**	**Comments**
Vaal River Surface	Measured	50 x 50	–					

(Type of drilling spans Diamond, RC, Blasthole, Channel, Other.)

–
–
–

Auger drilling
Indicated
100 x 100 to
150 x 150
–
–
–
–

Auger drilling
Inferred
–
–
–
–
–
–
Grade/ore control
50 x 50 to
100 x 100
–
–
–
–

Auger drilling
Mine Waste Solutions
Measured
100 x 100 to
320 x 250
–
–
–
–

Auger drilling
Indicated
100 x 100 to
300 x 375
–
–
–
–

Auger drilling
Inferred
–

–
–
–
–
–
Grade/ore control
50 x 50 to
100 x 100
–
–
–
–

Auger drilling
West Wits Surface
Measured
–
–
–
–
–
–
Indicated
150 x 150
–
–
–
–

Auger drilling
Inferred
–
–
–
–
–
–
Grade/ore control
150 x 150
–
–
–
–

Auger drilling
(1)
In the case of TSFs, additional sampling information is available in the form of residue sampling collected during deposition on the TSFs
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Introduction
South Africa

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SOUTH AFRICA CONTINUED
SURFACE OPERATIONS
Inclusive Mineral Resource

Surface Operations	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
as at 31 December 2017					
Vaal River Surface					
TSFs	Measured	10.83	0.20	2.19	0.07
	Indicated	410.28	0.27	108.86	3.50
	Inferred	–	–	–	–
	Total	421.11	0.26	111.05	3.57
Low grade stockpiles	Measured	–	–	–	–
	Indicated	9.13	0.39	3.52	0.11
	Inferred	–	–	–	–

Total
9.13
0.39
3.52
0.11
Mine Waste Solutions
TSFs
Measured
115.51
0.22
24.92
0.80
Indicated
172.34
0.26
44.89
1.44
Inferred
–
–
–
–
Total
287.85
0.24
69.81
2.24
West Wits Surface
TSFs
Measured
–
–
–
–
Indicated
57.21
0.30
17.27
0.56
Inferred
0.86
0.30
0.26
0.01
Total
58.07
0.30
17.53
0.56
Low grade stockpiles
Measured

–
–
–
–
Indicated
6.51
0.51
3.30
0.11
Inferred
–
–
–
–
Total
6.51
0.51
3.30
0.11
Surface Operations
Total
782.67
0.26
205.21
6.59

Mineral Resource by-product: uranium (U_3O_8)
Surface Operations
as at 31 December 2017
Category
Tonnes
million
Grade
kg/t
Contained uranium
tonnes pounds million
Vaal River Surface
Measured
10.83
0.13
1,408
3.10
Indicated
410.28
0.09
36,043
79.46
Inferred
–
–
–
–
Total
421.11
0.09
37,451
82.57
Mine Waste Solutions
Measured
115.51
0.07
7,871
17.35
Indicated
172.34
0.08
13,861
30.56
Inferred
–
–
–
–
Total
287.85
0.08
21,732

47.91
West Wits Surface
Measured
–
–
–
–
Indicated
57.21
0.06
3,669
8.09
Inferred
0.86
0.06
49
0.11
Total
58.07
0.06
3,718
8.20
Surface Operations
Total
767.03
0.08
62,901
138.68
Estimation
TSFs
Prior to 2011 for the Vaal River operations, the grade estimations for the TSFs were based on the residue grades obtained from the different process plants, as well as various *ad hoc* sampling projects in selected areas. All the TSFs in Vaal River and MWS have since been re-sampled by means of an extensive drilling exercise which commenced in 2011. A stringent QA/QC process was applied to the sampling and assay processes to ensure a high level of confidence in the results. The auger drilling typically took place on a 150m x 150m grid (Mineral Resource model) as well as a minimum of 50m x 50m grid (grade control model). The vertical sampling interval of 1.5m was implemented and where possible all holes were drilled into the native underlying strata to allow the estimation of the base of the TSF. The estimation technique used is 3D ordinary kriging. The variograms used for the grade estimation consist of both horizontal and downhole variograms. The model used for the construction of the grade model constitutes well defined 3D wireframes which are constructed using the drillholes and the results from monthly surveys on currently reclaimed TSFs and aerial surveys carried out on an annual basis for TSFs which are planned to be reclaimed. These models are regularly updated during the grade control process.

In the West Wits Surface sources area, all the grade estimations for the TSFs were based on the residue grades obtained from the different process plants as well as various *ad hoc* sampling projects in selected areas. For one of these areas, the Old North Complex, a drilling programme with the standard QA/QC programme was implemented in 2015 and continued in 2017.

A 3D estimate was completed as per the AngloGold Ashanti estimation process.

Low grade stockpiles

In the West Wits and Vaal River operations, the grade estimation is based on grades obtained from reclaimed tonnages from the different stockpiles, grades obtained from rock deposited on these facilities and grades from various other sampling projects carried out on some of the stockpiles. These sampling exercises involved a pit being dug on a pre-determined grid on the low grade stockpiles from which samples were taken. These samples were then split into different size fractions and assayed to determine the gold distribution for the different size fractions. The profiles of the stockpiles are also updated by means of aerial surveys carried out on an annual basis. Sampling is done by means of mechanical stop belt samplers on the feed belts at the metallurgical plants.

SOUTH AFRICA CONTINUED
SURFACE OPERATIONS
Exclusive Mineral Resource

Surface Operations	Category	Tonnes million	Grade g/t	Contained gold as at 31 December 2017 tonnes	Moz
West Wits Surface	Measured	–	–	–	–
	Indicated	46.95	0.31	14.60	0.47
	Inferred	0.86	0.30	0.26	0.01
Surface Operations	Total	47.81	0.31	14.86	0.48

Ounces
(millions)
4.1
4.0
3.9
3.8
3.7
3.6
3.5
3.4
0.00
0.00
0.00
0.00
0.00
3.68

0.01
-0.15
-0.28
0.08
4.02
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Vaal River Surface
year-on-year changes in Mineral Resource
Total (attributable)
Changes in the Mineral Resource are mainly due to normal depletions from TSFs and low grade stockpiles.
Ounces
(millions)
2.35
2.30
2.25
2.20
2.15
2.10
2.05
2.00
1.95
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
2.24
-0.09
2.33
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical

Other
Acquisition/
disposal
2017

Mine Waste Solutions
year-on-year changes in Mineral Resource

Total (attributable)

Normal depletions from Harties 1 and 2 and Ellaton TSF. No model changes.

Ounces
(millions)
1.7
1.3
0.9
0.5
0.00
0.00
0.00
0.00
0.00
0.67
0.06
-0.03
0.02
-0.93
1.55
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017

West Wits Surface year-on-year changes in Mineral Resource

Total (attributable)

Changes in the Mineral Resource are mainly due to normal depletions from TSFs and low grade stockpiles as well as Mponeng and
Savuka TSF moving out of Mineral Resource due to economics.
Harties 2, 5 and 6 TSFs are below cut-off at the
$1,200/oz price.

1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
10
5
0
-5
-10
-15
-20

-25
-30
Mine Waste Solutions
Inclusive Mineral Resource sensitivity
The driving factor for the re-mining of the low grade stockpiles is a strategic intent to reduce environmental liability.

SOUTH AFRICA CONTINUED
SURFACE OPERATIONS
Ore Reserve
Ore Reserve
Surface Operations
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Vaal River Surface
TSFs
Proved
10.86
0.20
2.19
0.07
Probable
410.98
0.26
108.86
3.50
Total
421.85
0.26
111.05
3.57
Low grade stockpiles
Proved
–
–
–
–
Probable
9.13
0.36
3.27
0.11
Total
9.13
0.36
3.27
0.11
Mine Waste Solutions
TSFs
Proved
115.78

0.22
24.92
0.80
Probable
172.57
0.26
44.89
1.44
Total
288.35
0.24
69.81
2.24
West Wits Surface
TSFs
Proved
–
–
–
–
Probable
12.06
0.29
3.56
0.11
Total
12.06
0.29
3.56
0.11
Low grade stockpiles
Proved
–
–
–
–
Probable
4.71
0.51
2.42
0.08
Total
4.71
0.51
2.42
0.08
Surface Operations
Total
736.09
0.26
190.11

6.11
Ore Reserve by-product: uranium (U_3O_8)

Surface Operations
as at 31 December 2017

Category	**Tonnes million**	**Grade kg/t**	**Contained uranium tonnes**	**pounds million**
Vaal River Surface				
Proved	10.86	0.13	1,408	3.10
Probable	226.02	0.09	20,166	44.46
Total	236.89	0.09	21,574	47.56
Mine Waste Solutions				
Proved	14.15	0.05	776	1.71
Probable	152.92	0.08	11,891	26.22
Total	167.07	0.08	12,668	27.93
Surface Operations				
Total	403.96	0.08	34,242	75.49

The majority of uranium Ore Reserve at Vaal River Surface consists of TSF material. There has been a change in processing strategy at MWS. No uranium Ore Reserve reported for West Wits Surface.

Estimation

TSFs

Mine design models delineate the areas to be reclaimed over the life of the operations, taking all relevant mine design recommendations into consideration. The *in situ* Mineral Resource is scheduled for the full LOM plan. The value estimates for these schedules are derived from the Mineral Resource block models where they exist. Tailings are evaluated as inclusive complexes, in addition, the individual compartments making up the TSF complexes are evaluated to facilitate the composition of optimised mining plans. The benefit of the reclamation of the surface sources and subsequent rehabilitation of the relevant areas is included in the evaluation of the feasibility of the project.

Low grade stockpiles

Planned reclamation from the low grade stockpiles is scheduled out to ensure an average blend. The *in situ* Mineral Resource is scheduled for the full LOM plan. The value estimates for these schedules are derived from the Mineral Resource estimate with an 18 month reconciliation factor applied to the Mineral Resource

Ore Reserve modifying factors

Surface Operations as at 31 December 2017	**Gold price ZAR/kg**	**Cut-off grade g/t Au**	**RMF % (based on tonnes)**	**RMF % (based on g/t)**	**MCF %**	**MetRF %**
Vaal River Surface						
TSFs	512,059	0.20	100.0	100.0	100.0	52.1
Low grade stockpiles	512,059	0.37	100.0	93.0	100.0	87.0

Mine Waste Solutions
TSFs
512,059
0.20
100.0
100.0
100.0
52.1
West Wits Surface
TSFs
512,059
0.43
100.0
100.0
100.0
42.0
Low grade stockpiles
512,059
0.29
100.0
86.0
100.0
88.0
10% margin applied for cut-off grade calculations apart from Vaal River Surface low grade stockpiles which uses a 5% margin.
Minor dilution of the TSF tonnes occurs when reclamation of the floor area of the TSF is done. During reclamation it is also possible
that small quantities of basement material is included with the TSF floor material. A small dilution factor has been included to
account for them both. The MetRF for TSF material is between 42% and 52% depending on the metallurgical plant and for low
grade stockpile material processed it is around 87% – 88%.
For the low grade stockpiles a Mineral Resource factor is applied which is based on an 18 month rolling average of the actual
evaluation factor.
Inferred Mineral Resource in business plan
No Inferred Mineral Resource included in business plan or in the Ore Reserve.

SOUTH AFRICA CONTINUED
SURFACE OPERATIONS
Ounces
(millions)
4.0
3.9
3.8
3.7
3.6
3.5
3.4
0.00
0.00
0.00
0.00
0.00
3.68
-0.22
0.01
-0.10
0.05
0.01
3.93
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue
factor
Acquisition/
disposal
2017
Vaal River Surface year-on-year changes in Ore Reserve
Total (attributable)
Normal depletions during 2017. No other significant movement reported for the VR Ore Reserve.
Changes in the Ore Reserve are mainly due to depletions and changes in the processing strategy.
Ounces
(millions)
2.30
2.25
2.20
2.15
0.00
0.00
0.00
0.00

0.00
0.00
0.00
0.00
2.24
0.04
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue
factor
Acquisition/
disposal
2017

Mine Waste Solutions year-on-year changes in Ore Reserve

Total (attributable)
2.29
-0.08

Year-on-year the Ore Reserve increased with the negative effects of depletion and gold price being offset by an increase of material
processed from the TSF as well as processing of low grade stockpiles through the Mponeng gold plant from 2018.

Ounces
(millions)
0.20
0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.00
0.00
0.00
0.01
0.00
0.19
-0.03
-0.02
0.02
0.02
0.02
0.17
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue
factor
Acquisition/
disposal
2017

West Wits Surface year-on-year changes in Ore Reserve

Total (attributable)

65

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CONTINENTAL
AFRICA
SECTION 3

CONTINENTAL AFRICA
REGIONAL OVERVIEW
2
4
5
1
1 Guinea
Siguiri (85%)
2 Mali
Morila (40%)
Sadiola (41%)
3 Ghana
Iduapriem
Obuasi
4 DRC
Kibali (45%)
5 Tanzania
Geita
Operations
Projects
0
2,000km
3
Key statistics
Units
2017
2016
2015
Operational performance
Tonnes treated/milled
Mt
28.0
28.2
27.2
Recovered grade
oz/t
0.047
0.047
0.053
g/t
1.61
1.46
1.64
Gold production (attributable)
000oz
1,453
1,321
1,435
Total cash costs
$/oz
720

717
678
Total production costs
$/oz
1,012
1,005
900
All-in sustaining costs
(1)
$/oz
953
904
815
Capital expenditure (attributable)
$m
409
291
315
(1)
Excludes stockpile write-offs
Contribution to regional production
•
Geita
•
Iduapriem
•
Siguiri
•
Kibali
•
Morila
•
Sadiola
%
37
16
22
18
2
4
Contribution to group production
•
Continental Africa
•
Rest of AngloGold
Ashanti
%
39
61
67
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CONTINENTAL AFRICA CONTINUED
REGIONAL OVERVIEW

Contribution to group total Mineral Resource

- 31 Continental Africa
- 69 Rest of AngloGold Ashanti

%

Contribution to group total Ore Reserve

- 34 Continental Africa
- 66 Rest of AngloGold Ashanti

%

As at December 2017, the total attributable Mineral Resource (inclusive of the Ore Reser ve) for the Continental Africa region was 64.1Moz (2016: 63.8Moz) and the attributable Ore Reserve 16.9Moz (2016: 17.8Moz).

This is equivalent to 31% and 34% of the group's Mineral Resource and Ore Reserve respectively. Combined production from these operations totalled 1.453Moz of gold in 2017, or 39% of group production.

AngloGold Ashanti has seven mining operations within Continental Africa region: Kibali in the Democratic Republic of the Congo (DRC) a joint venture (JV) with Randgold Resources Limited (Randgold); Iduapriem and Obuasi in Ghana; Siguiri in Guinea; Morila (a JV with Randgold) and Sadiola (a JV with IAMGOLD) in Mali and Geita in Tanzania. Mining is from both open pit and underground, with Obuasi being an underground mine, Iduapriem, Siguiri and Sadiola being open pit mines and Kibali and Geita being a combination of open pit and underground mines. Morila is primarily a tailings retreatment operation.

Inclusive Mineral Resource

Continental Africa			**Contained gold**	
Category	**Tonnes million**	**Grade g/t**	**as at 31 December 2017 tonnes**	**Moz**
Measured	47.06	1.75	82.34	2.65
Indicated	467.81	2.60	1,218.43	

39.17
Inferred
203.41
3.41
693.91
22.31
Total
718.27
2.78
1,994.69
64.13
Exclusive Mineral Resource
Continental Africa
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Measured
4.80
4.78
22.96
0.74
Indicated
276.51
2.65
733.10
23.57
Inferred
203.00
3.42
693.59
22.30
Total
484.31
2.99
1,449.65
46.61
Ore Reserve
Continental Africa
as at 31 December 2017
Category
Tonnes
million
Grade
g/t
Contained gold

tonnes
Moz
Proved
35.79
1.48
53.06
1.71
Probable
184.07
2.57
472.31
15.19
Total
219.86
2.39
525.37
16.89

Continental Africa Mineral Resource – attributable
per operation/project
Morila
Sadiola
Iduapriem
Geita
Siguiri
Kibali
Obuasi
0
5
10
15
20
25
30
35
40
0.2
0.1
3.3
3.3
5.6
5.5
7.3
6.4
6.1
7.3
7.7
7.4
33.5
34.0
2016
2017
Moz
Continental Africa Ore Reserve – attributable
per operation/project
Morila
Geita
Sadiola
Iduapriem
Siguiri
Kibali
Obuasi
0
1
2
3
4
5
6

7
0.1
0.1
2.0
1.2
1.8
1.7
1.8
1.9
2.4
2.2
4.1
3.9
5.5
5.9
2016
2017
Moz
69
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CONTINENTAL AFRICA CONTINUED
DEMOCRATIC REPUBLIC OF THE CONGO

DRC
Kisangani
Lubumbashi
1
Operations
1 Kibali (45%)
0
300km
Bunia
Kinshasa

AngloGold Ashanti owns 45% of Kibali in the DRC. Kibali produced 596koz in 2017 of which AngloGold Ashanti's portion was 268koz.

The operation is a JV between three separate entities:

- AngloGold Ashanti
- Randgold, the operator, an African-focused gold mining and exploration business with primary listings on the London Stock Exchange and Nasdaq
- Société Minière de kilo-Moto (SOKIMO), the state-owned gold mining company

The consolidated lease is made up of 10 mining concessions.

Inclusive Mineral Resource

Democratic Republic of Congo	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2017				
Category	**million**	**g/t**	**tonnes**	**Moz**
Measured	10.05	4.11	41.30	1.33
Indicated	46.70	3.07	143.52	4.61

Inferred
19.98
2.34
46.66
1.50
Total
76.73
3.02
231.48
7.44
Exclusive Mineral Resource
Democratic Republic of Congo
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Measured
1.29
2.64
3.41
0.11
Indicated
24.83
2.34
58.08
1.87
Inferred
19.98
2.34
46.66
1.50
Total
46.10
2.35
108.15
3.48
Ore Reserve
Democratic Republic of Congo
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes

Moz
Proved
8.54
4.07
34.78
1.12
Probable
21.18
4.10
86.76
2.79
Total
29.72
4.09
121.55
3.91
70
MINERAL RESOURCE AND ORE RESERVE REPORT
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CONTINENTAL AFRICA CONTINUED

KIBALI

Introduction

Property description

Operations presently focus on open pit and underground mining with underground development on twin declines and a vertical shaft. Gold production began in September 2013.

Location

Kibali is located in the north-eastern part of the DRC near the international borders with Uganda and South Sudan. The mine is located adjacent to the village of Doko, which is located to the west of the lease area. Kibali is approximately 210km by road from Arua and immediately north of the district capital of Watsa. The operations area falls within the administrative territory of Watsa in Haut Uélé province.

History

On 15 October 2009, AngloGold Ashanti acquired a 50% indirect interest in Moto Goldmines Ltd through a JV with Randgold, with Moto holding a 70% stake in Kiabli and the balance (30%) being held by the DRC parastatal, SOKIMO. On 21 December 2009, Randgold and AngloGold Ashanti increased their JV interest in Kibali to 90%, while SOKIMO retained a 10% holding.

First gold was poured in September 2013 from the open pit operations. Underground mining commenced in 2014 and the shaft began commissioning in 2017.

Legal aspects and tenure

The total Ore Reserve is covered by exploitation permits (11447, 11467, 11468, 11469, 11470, 11471, 11472, 5052, 5073 and 5088) totalling 1,836km^2. Kibali gold mine has been granted the 10 exploitation permits under the DRC mining code, seven of which are valid until 2029 and three are valid until 2030.

Mining method

The mine comprises both open pit and underground mining. The open pit Ore Reserve shell optimisations are conducted on the Mineral Resource models. Detailed mine designs are then completed for open pit mining. This incorporates the mining layout, operating factors, stripping ratio and relevant cut-off grades and modifying factors required for the reporting of Ore Reserve.

For the underground operation, longitudinal and transverse longitudinal stoping methods with paste backfill are the current underground mining methods. Mining operations are conducted by dedicated contractors.

Operational infrastructure

The mine site is located within 160km of the border with Uganda and all transport links take place through Uganda to Kenya or Tanzania. Surface infrastructure associated with the overall Kibali operation includes a processing plant, tailings storage facility, camp, hydro and thermal power stations, airstrip, workshops and offices.

All necessary government agreements and approvals required for the mine are in place.

Mineral processing

The current processing plant can treat both oxide and fresh sulphide material and is configured for flotation and ultra-fine-grind of the flotation concentrate – a treatment that is required for the sulphide ore type before leaching.

Risks

There are no known material risks that will impact on the Mineral Resource and Ore Reserve.

An independent external Mineral Resource and Ore Reserve audit was undertaken in 2017 and found no fatal flaws in process or output.

Continental Africa
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0
1
2
3km
mine village
KCD portal and shaft
Mofu
Memekazi
Mandungu
Mengu
Ndala
Gimbia
Pakaka
Kombokolo
KCD
Mengu Hill
Pamao
Sessenge
to
D
ok
o
Gorumbwa
Mining Lease area
Licences
Mine infrastructure
Settlements
Roads
Mining
Pits
Plant
Stockpiles
TSF
Waste dumps
Underground access
Main
Secondary
Villages
Villages
Airfield
Plant centroid co-ordinates
29°35’31”E, 3°6’50”N
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CONTINENTAL AFRICA CONTINUED
KIBALI
Competent Persons
Kibali

Category	**Competent Person**	**Professional organisation**	**Membership number**	**Relevant experience**	**Qualification**
Mineral Resource and Ore Reserve	Rodney Quick*	SACNASP	400014/05	24 years	BSc Hons (Geology), MSc (Geology)

** Employed by Randgold, 3rd Floor, Unity Chambers, 28 Halkett Street, St Helier, Jersey OJE2*

Geology
Deposit type
Deposits of the Kibali district are located in the Archaean Moto Greenstone Belt bounded to the north by the West Nile Gneiss and to the south by plutonic rocks of the Watsa district. The belt comprises three lithostratigraphically distinct blocks. Psammopelitic schists, amphibolite, banded iron formation, and gneissic granitoid sills metamorphosed under upper greenschist to low-mid-amphibolite facies conditions form the eastern part of the belt. Relative weakly foliated basalts, cherts, siliciclastic rocks, dacitic volcaniclastic rocks, and carbonaceous argillite metamorphosed under mid to upper greenschist facies conditions comprise the central and western-most parts of the belt. Granitoid plutons as old as ca. 2,640Ma intrude these rocks. A thick package of immature sandstone, gritstone, conglomerate, and probably acid tuffs forms much of the western part of the belt, including the host rocks to Karagba, Chauffeur and Durba (KCD), the largest deposit discovered to date within the belt. Radiometric dating indicates these siliclastic rocks were deposited during a belt-wide basin extension event between ca. 2,629-2,626Ma with much of the detritus derived from adjacent older parts of the belt.

Boundaries between these lithostratigraphic blocks represent important exploration targets.

The main Kibali deposit consists of the combination of Karagba, Chauffeur and Durba (KCD) deposit. Currently only the KCD deposit hosts an underground Ore Reserve and this constitutes 84% of the total KCD Ore Reserve.

Mineralisation style
Gold mineralisation of the Kibali district are classified as Archaean orogenic gold deposits. At Kibali the gold deposits are largely

hosted in siliciclastic rocks, banded iron formations and chert that were metamorphosed under greenschist facies conditions. Ore-forming H_2O-CO_2-rich fluids migrated along a linked network of gently northeast-dipping shears and northeast to NNE-plunging fold axes that is commonly referred to as the KZ Trend. The richly mineralised KZ Trend appears to have initiated as an extensional fault system along the boundary between the relatively young basin in the western part of the belt and older rocks to the east.

Mineralisation occurred during the later stages of subsequent regional contractional deformation, which resulted in inversion of the basin, development of reverse faults and folds. Ongoing deformation during hydrothermal activity resulted in development of lodes in a variety of related structural settings within the KZ Trend. The source(s) of metal and fluids, which formed the deposits remain unknown, but metamorphic devolatilisation reactions within the supracrustal rocks of the Moto Greenstone Belt and/or deeper fluid and metal sources may have contributed.

Mineralisation characteristics

Gold deposits of the Kibali district are associated with haloes of quartz, ankerite and sericite, ACSA-A alteration that extend for 10s to 100s of metres into the adjacent rocks. This widespread ACSA-A alteration assemblage is superimposed on older greenschist facies metamorphic assemblages. Locally in the vicinity of the main mineralised zones ACSA-A alteration is overprinted by ankerite-siderite, pyrite alteration (ACSA-B) that hosts the ore. Gold is directly associated with the ACSA-B alteration assemblage. In smaller peripheral deposits a late chlorite, carbonate, pyrite assemblage is associated with the ore rather than the ACSA-B assemblage, implying a district-wide zonation of mineral assemblages along and across the mineralised KZ Trend. Zones of auriferous ACSA-B alteration are commonly developed along the margins of banded iron formation, or contacts between chert, carbonaceous phyllite, and banded iron formation. Mineralised rocks in the Kibali district typically lack significant infill quartz-rich veins, unlike many other orogenic gold deposits. Gold is instead associated with pyrite in zones of alteration that replaced the earlier mineralogy of the host rocks. Local remobilisation and upgrading of ACSA-B related ore occurred adjacent to the margins of some post-ore crosscutting chlorite, carbonate, pyrite, magnetite-altered diorite dykes.

The location of the individual lodes within the KCD deposit are intimately controlled by the position, shape, and orientation of a series of gently northeast-plunging tight to isoclinal folds. The ACSA-A alteration developed during the formation of these folds, and the sericite foliation which is an integral part of the ACSA-A assemblage formed parallel to their axial planes. Zones of later auriferous ACSA-B alteration developed along the axes, limbs, and more rarely the axial planes of these folds, locally wrapping around the hinges of the folds to form elongate northeast-plunging concave-shaped rods. ACSA-B alteration is also commonly focused along the margins of more extensive banded iron formations, indicating a stratigraphic as well as structural control on the distribution of ore, both within KCD, and other parts of the wider KZ Trend. Shear zones that were active during folding are a third key structural control on the location of ore within KCD and the wider KZ Trend. At KCD a folded carbonaceous shear in the core of the deposit juxtaposes stratigraphically distinct blocks. The 3,000 lodes above this shear are hosted by locally ferruginous cherts, carbonaceous argillites, and minor greywacke, whereas the 5,000 and 9,000 lodes below are hosted by siliciclastic rocks and banded iron formation. Fold shapes and wavelength differ between the two blocks reflecting their different rheologies during folding, and this is reflected in the scale, shape, and continuity of lodes in each block. At Pakaka and Kalimva chlorite, carbonate, pyrrhotite, pyrite-altered shear zones rather than folds are the principal controls on gold distribution.

SW-NE Section through KCD underground

Haulage
Level
3,000 Down
plunge
Opportunity
5,000 Down
plunge
Opportunity
A - Decline
C - Decline
Sha
– UG
Gap
SESSENGE $1,000
Design
KCD $1,100 pit shell
opportunity
C - Decline
3,000 up plunge
Opportunity
KCD $1,000
Design
SW
NE
100m

DDD587
New
DDD602
9,000 SES
3,000 Lode
9,000 Lode
5,000 Lode
6,000 L
5,750 L
5,550 L
5,250 L
5,000 L

Exploration

The focus of exploration during the year was on providing mine flexibility through Mineral Resource additions, focusing in on near mine opportunities. Kombokolo-Rhino-Agbarabo, Sessenge-Sessenge Southwest, Aerodrome-Pamao-Megi, and KCD-Kombokolo areas were all reviewed and tested for opportunities. Notable successes was the Kombokolo-Rhino-Agbarabo area where an integrated geological data analysis of the whole resulted in a consolidated geological model.

A significant outcome for the year was the deep hole completed at KCD testing the potential projection of the BIF, 600m down plunge of the Mineral Resource, this confirmed down plunge opportunities and the potential for a deeper mineralised lode.

Another focus area was on the twin new discoveries at Kalimva and Ikamva, at Kalimva a planar envelope of mineralisation with silica-chlorite alteration, associated with pyrite and/or pyrrhotite steeply dipping to the east with plunging shoots in the system was identified. The mineralisation extension of the shear system was tested over a 1.6 km strike length and remains open towards the south and north. Currently the high-grade shoot are being tested. While at Ikamva, preliminary drilling suggests mineralisation potential along a recumbent fold opening up down-plunge and the mineralisation occurring at the BIF-meta-conglomerate contact of limbs and hinge.

Ndala North and the south of the KZ Trend (Zakitoko target) were also the focus for the new discovery, with field work starting late in the year.

CONTINENTAL AFRICA CONTINUED
KIBALI

Projects

The shaft sinking has reached the shaft bottom at a final depth of 751.2m and the equipping of the shaft was completed in 2016
with first ore from the shaft hoisted during 2017.

At the Ambarau hydro power plant, construction was completed during the year, with first power being drawn early in 2017.

Construction on the Azambi hydro power plant, the third hydro power plant to be constructed, started during 2016 and is on
schedule to be completed in 2018.

Mineral Resource

Details of average drillhole 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, 15 x 20
–
–
–
–
Indicated
40 x 40
–
–
–
–
Inferred
80 x 80
–
–
–
–
Grade/ore control
5 x 10, 15 x 20

–
–
–
–
** Open pit Mineral Resource*
Inclusive Mineral Resource
Kibali
as at 31 December 2017
Category
Tonnes
million
Grade
g/t
Contained gold
tonnes
Moz
Open pit
Measured
4.68
2.44
11.41
0.37
Indicated
17.33
2.11
36.61
1.18
Inferred
10.03
1.84
18.46
0.59
Total
32.04
2.07
66.48
2.14
Underground
Measured
5.37
5.57
29.90
0.96
Indicated
29.37
3.64
106.91
3.44
Inferred
9.95
2.83

28.20
0.91
Total
44.69
3.69
165.01
5.31
Kibali
Total
76.73
3.02
231.48
7.44
Estimation
Mineral Resource estimation is undertaken by Randgold in-house Competent Persons or by approved external consultants.
The results both of DD and of Reverse Circulation (RC) drilling 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 modelled 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 drillhole data to prevent the spread of high grades
during the estimation process. Drillhole spacing is used to guide the Mineral Resource classification. The open pit Mineral Resource
is quoted within a limiting shell. The underground Mineral Resource was constrained by the application of optimised mineable
Mineral Resource shapes, which applies reasonable mineability constraints including a minimum mining width, a reasonable distance
from current or planned development, and a measure of assumed profitability at the related Mineral Resource cut-off grade.

Exclusive Mineral Resource

Kibali

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	1.29	2.64	3.41	0.11
Indicated	24.83	2.34	58.08	1.87
Inferred	19.98	2.34	46.66	1.50
Total	46.10	2.35	108.15	3.48

The exclusive Mineral Resource for the open pits largely comprise of Inferred Mineral Resource and tonnages that occur below the Ore Reserve cut-off grade (due to gold price difference). 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. Both the in-pit Mineral Resource and underground material below the Ore Reserve mining cut-off form a significant part of this material.

Kibali

Grade tonnage curve surface (metric) (attributable)

Tonnes
above
cut-off
(millions)
Average
grade
above cut-off
(g/t)
40
35
30

25
20
15
10
5
0
14
12
10
8
6
4
2
0
0
1
3
4
7
8
9
10
2
5
6
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Kibali
Grade tonnage curve underground (metric) (attributable)
Tonnes
above
cut-off
(millions)
Average
grade
above
cut-off
(g/t)
50
40
30
20
10
0
16
14
12
10
8
6

4
2
0
1
3
4
5
7
8
9
10
2
6
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Decrease in Mineral Resource because of depletion with minor additions coming from exploration additions from both open pit and
underground.
Ounces
(millions)
8.0
7.5
7.0
6.5
6.0
0.11
0.00
0.00
0.00
0.00
0.00
-0.36
-0.01
-0.03
7.73
7.44
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Kibali year-on-year changes in Mineral Resource
Total (attributable)

CONTINENTAL AFRICA CONTINUED

KIBALI

Ore Reserve

Ore Reserve

Kibali	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017**	
				tonnes	**Moz**
Open pit	Proved	2.98	2.39	7.11	0.23
	Probable	7.33	2.28	16.68	0.54
	Total	10.31	2.31	23.79	0.76
Underground	Proved	5.56	4.97	27.67	0.89
	Probable	13.85	5.06	70.09	2.25
	Total	19.42	5.03	97.76	3.14
Kibali	Total	29.72	4.09	121.55	

3.91
Estimation
The open pit Ore Reserve shell optimisations were completed on the Mineral Resource models. This incorporated the mining
layout, operating factors, stripping ratio and relevant cut-off grade and modifying factors for reporting the Ore Reserve. An open pit
underground interface was set at 5,685mRL between the KCD open pit and underground mine.
A cut-off grade analysis at $1,000/oz was used to determine a cut-off grade of 2.5g/t for the underground mine. Longitudinal and
transverse longhole open stoping methods with paste backfill are the current preferred mining methods. Underground stope designs
were updated from the previously reported Ore Reserve using the latest Mineral Resource models. Modifying factors for planned
and unplanned rock dilution, backfill dilution and ore loss were applied to obtain the reported Ore Reserve.
Metallurgical, environmental, social, legal, marketing and economic factors were adequately considered in the Kibali FS and have
been updated as the project has developed.
1,200
1,500
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
15
10
5
0
-5
-10
-15
-20
-25
Kibali
Inclusive Mineral Resource sensitivity
Kibali is very sensitive to a decrease in gold
price due to the nature of the underground
mineralisation.

Ore Reserve modifying factors

Kibali **as at 31 December 2017**	**Gold price US$/oz**	**Cut-off grade g/t Au**	**Dilution %**	**Dilution g/t**	**MCF %**	**MetRF %**
Open pit	1,000	1.53	10.0	–	100.0	84.5
Underground	1,000	2.50	4.8	0.0	100.0	88.9

$1,000/oz Ore Reserve price used by Randgold (operating partner), apart from KCD open pit which is at $1,100/oz

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.

Ounces
(millions)
6
5
4
3
2
0.00
0.00
0.00
0.00
0.00
0.00
-0.01
-0.31
1.02

-0.91
3.91
4.13
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Kibali
year-on-year changes in Ore Reserve
Total (attributable)
Year-on-year the Ore Reserve decreased slightly with the depletion being partially offset by exploration and Ore Reserve conversion.
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G H A N A
Bolgatanga
GHANA
Tamale
Kumasi
Accra
Tarkwa
Skondi Takoradi
Operations
1 Obuasi
2 Iduapriem
0
150km
1
2
Operations
Projects

AngloGold Ashanti has two mines in Ghana. Obuasi, currently in care and maintenance, is primarily an underground mine operating at depths of up to 1,500m with a continuous history of mining dating back to the 1890s and Iduapriem, an open pit mine.

A FS to restart operations in Obuasi was completed in 2017 and operations will restart pending successful conclusion of negotiations with the Ghanaian government. 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. Mining was temporarily suspended at the end of 2014 whilst a series of economic studies progressed. Iduapriem is located in western Ghana, some 85km from the coast and south of Obuasi near the town of Tarkwa.

Inclusive Mineral Resource
Ghana
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t

tonnes
Moz
Measured
6.46
3.38
21.83
0.70
Indicated
185.22
4.07
753.89
24.24
Inferred
75.02
6.07
455.69
14.65
Total
266.70
4.62
1,231.42
39.59
Exclusive Mineral Resource
Ghana
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Measured
3.51
5.57
19.55
0.63
Indicated
125.21
4.06
508.39
16.35
Inferred
75.02
6.07
455.69
14.65
Total
203.74
4.83

983.63
31.62
Ore Reserve
Ghana
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Proved
2.95
0.77
2.29
0.07
Probable
58.59
4.06
237.75
7.64
Total
61.54
3.90
240.04
7.72

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CONTINENTAL AFRICA CONTINUED

I D U A P R I E M

Introduction

Property description

Iduapriem mine is wholly owned by AngloGold Ashanti. It is an ongoing multiple open pit operation that currently sources ore from the Ajopa, Block 7 and Block 8 pits. The addition of the Block 3W pit is planned for 2018.

Location

Iduapriem mine is located in the western region of Ghana, some 70km north of the coastal city of Takoradi and approximately 10km south-west of the town of Tarkwa. The mine is bordered in the north by Gold Fields Ghana Limited (Tarkwa Mine) and to the east by the Ghana Manganese Company Limited (a manganese mine in existence since the 1920s).

History

A FS was completed in 1990 and in October 1991 Golden Shamrock Limited began construction of a 1.36Mtpa semi-autogenous milling circuit and CIP plant. Mining commenced in August 1992 with the first gold pour achieved in September of that year. Golden Shamrock was acquired by Ashanti Goldfields Company Limited in 1996. In 2000, a portion of the non-operational Teberebie Goldfields Limited (a subsidiary of Pioneer Goldfields Ltd) was purchased resulting in increased Ore Reserve and extended LOM. In 2002, Ashanti upgraded the plant capacity to 4Mtpa and in 2009 the plant capacity was further extended to the current 5Mtpa.

Legal aspects and tenure

Iduapriem comprises the following mining leases:

- Iduapriem LVB1539/89 covering 31km ^{2}and expiring on 18 April 2019
- Ajopa North LVB/WR326/09 covering 48.34km ^{2} and expiring on the 5 January 2019
- Teberebie LVB3722H/92 covering 25.83km ^{2} and expiring on 1 February 2018. The application for renewal has been submitted and there is a reasonable expectation that the lease will be renewed

A new Environmental Management Plan (EMP) has been submitted for the mining leases.

Mining method

Iduapriem is an open pit mine which makes use of contract miners. It uses conventional drill and blast, with truck and excavator load and haul.

Operational infrastructure

Surface infrastructure associated with Iduapriem's operation includes a primary crusher, overland conveyor, CIP processing plant next to the main office building, tailings storage facility and two camp areas for contractors and company employees. Tarkwa town is also adjacent to the tenement. Power is obtained from the national grid.

Mineral processing

The current processing plant treats free-milling material from open-cast mining, by a conventional crush-semi-autogenous ball milling circuit and leaching. Iduapriem operates a two stage crushing circuit consisting of a 54-75 primary gyratory crusher and two GP550 gyratory crushers for secondary crushing. The Iduapriem treatment plant has two semi-autogeneous grinding mills (SAG mills) and two ball mills which run in two parallel circuits, each with a SAG mill and a ball mill.

Risks

Power reliability and stability, slope/high wall stability (rockfall potential) and inrush/inundation (flooding of pits, tailing dams and infrastructure) are considered potential risks. Mitigation plans are in place to manage these risks.

Teberebie
Tarkwa
to Adiawso
Tamso
Efuenta
Badukrom
Wangarakrom
Pepesa
to Aniantintem
Ajopa
Block 5
Block 7&8
Block 4
0
1.5
3
4.5km
Mile 8
Mile 7
Block 3 west
Plant centroid co-ordinates
2°02’38”W, 5°14’44”N
Pits
Plant
ROM pad
Crusher
Leach pad
TSF
Waste dumps
Main
Secondary
Towns
Villages
Licences
Mine infrastructure
Mining
Settlements
Roads
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CONTINENTAL AFRICA CONTINUED

I D U A P R I E M

Competent Persons

Iduapriem Category	**Competent Person**	**Professional organisation**	**Membership number**	**Relevant experience**	**Qualification**
Mineral Resource	Emmarentia Maritz	SACNASP	118 345	14 years	BSc Hons (Geology), MSc (Mineral Resource Evaluation)
Ore Reserve	Stephen Asante Yamoah	MAusIMM	304 095	13 years	BSc (Hons) Mining Engineering, MSc (Mining Engineering)

Geology

Deposit type

Iduapriem mine is geologically located within the Tarkwaian Group. The Tarkwaian clastic fluviatile sediments overlie the older Palaeoproterozoic meta-mafic volcanics of the Birimian Series and form part of the West Africa Craton. It consists of a thick sequence of clastic meta-sedimentary rocks which have suffered low grade regional metamorphism.

Mineralisation style

Economic gold mineralisation of the Tarkwaian occurs in the Banket Series Formation which comprise a sequence of individual beds of quartz pebble conglomerates, breccia conglomerates and meta-sandstones. All known gold mineralisation within the Banket Series Formation is associated with the conglomerates and is found within the matrix that binds the pebbles together. There are four recognised conglomerate reefs namely A, B, C and D which are equivalent to the Tarkwaian Sub-Basal, Basal (or Main), Middle (or West) and Breccia Reefs respectively. The B and C reefs are oligomictic, and consist of well sorted conglomerates and have been mined underground in some areas for over a century. The A and D reefs have a lower gold tenor and are polymictic containing both well rounded and angular fragments.

Mineralisation characteristics

The gold is fine-grained, free milling and not associated with sulphides.

Exploration

Exploration during 2017 focused on infill drilling at Block 3W, Mineral Resource delineation drilling at Block 1 West and reconnaissance drilling at the Block 5 and Mile 5 targets. A total of 11,575m was drilled, comprising 9,459m DD and 1,875m RC.

Drilling at Block 1 West continued with reconnaissance drilling concluded towards the end of the first quarter. Drilling in the area totalled 7,214m with 501m being RC and 1,955m being DD. Drilling mainly targeted the delineation of the conglomerate reef package along strike. More recent drilling was focused on the near surface reef definition of a truncated conglomerate package which was intersected in the central to western area.

The Block 3 West drilling was aimed at upgrading the Inferred to Indicated Mineral Resource and on increasing the confidence in the fault and reef displacement interpretations. A total of 1,708m was drilled (333m RC and 1,375m DD).

A few planned exploration holes at the Mile 5 western target were drilled as part of an orientation study. A total of 240m of RC, to a maximum depth of 48m, was achieved.

A mapping campaign covering the Block 5 northern extension informed the plan to drill the area with the aim of intersecting the mapped reef packages perpendicularly. A total of 2,412m was drilled over the second half of 2017 with the drilling aimed at intersecting the full extent of the reef packages along strike and to gain a better understanding of the influence of faults and intrusives on the conglomerates.

Field mapping at Nkyemia commenced during the year, focusing on conglomerate reef outcrops observed within the 2.5km stretch.

Structural measurements showed the main bedding feature to dip in a 335° direction, towards the northwest, at an average angle of 40°. This presupposes that the whole reef package may have some parasitic folding.

The mapping at the Ajopa West cutback continued with emphasis on confirming the strike extent of mineralised reef encountered during mining of the cutback area after which focus was moved to the north western portions of Ajopa. Conglomerate packages observed showed layers below the original alluvial portion with very gentle dips. A few samples collected for panning showed the presence of gold within these layered portions.

The results of a lease-scale geochemical soil sampling programme completed during 2016 were fully accessed and recommendations were made for further soil sampling. During 2017, soil sampling was completed at Nueng Forest. Soil sampling is still to be completed for the Badukrom areas, southernmost part of Mile 5 West and the northernmost portions of the concession.

Iduapriem mine gold bearing conglomerate reefs

Projects

No major projects have recently been completed or are planned at Iduapriem.

Mineral Resource

Details of average drillhole spacing and type in relation to Mineral Resource classification

Iduapriem

Type of drilling

Category

Spacing m (-x-)

Diamond

RC

Blasthole

Channel

Other

Comments

Measured

20 x 15

–

–

–

–

–

Indicated

50 x 50, 50 x 75,
50 x 100

–

–

–

–

Inferred

100 x 100,
100 x 150,
120 x 120,
200 x 100

–
–
–
–
Grade/ore control
20 x 15
–
–
–
–
–
0
500
1,000
1,500
Plunge 00
Azimuth 255
SE
NW
85

CONTINENTAL AFRICA CONTINUED

I D U A P R I E M

Inclusive Mineral Resource

Iduapriem

as at 31 December 2017

Category	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Ajopa				
Measured	–	–	–	–
Indicated	4.46	1.69	7.54	0.24
Inferred	0.51	2.13	1.08	0.03
Total	4.97	1.74	8.62	0.28
Block 1				
Measured	–	–	–	–
Indicated	–	–	–	–
Inferred	0.23	1.69	0.39	0.01
Total				

0.23
1.69
0.39
0.01
Block 3W
Measured
–
–
–
–
Indicated
3.84
1.33
5.10
0.16
Inferred
4.82
1.60
7.73
0.25
Total
8.66
1.48
12.83
0.41
Block 5
Measured
–
–
–
–
Indicated
5.03
1.22
6.14
0.20
Inferred
2.05
1.29
2.64
0.08
Total
7.08
1.24
8.77
0.28
Block 7 and 8 West cutback
Measured
–
–
–

–
Indicated
11.20
1.60
17.92
0.58
Inferred
0.03
1.66
0.05
0.00
Total
11.24
1.60
17.97
0.58
Block 7 and 8 other
Measured
–
–
–
–
Indicated
31.80
1.61
51.19
1.65
Inferred
18.37
1.63
29.98
0.96
Total
50.17
1.62
81.16
2.61
Block 7 and 8 East cutback
Measured
–
–
–
–
Indicated
16.42
1.71
28.05
0.90
Inferred
0.11
1.29

0.14
0.00
Total
16.53
1.71
28.19
0.91
Stockpile (full grade ore)
Measured
2.64
0.79
2.09
0.07
Indicated
–
–
–
–
Inferred
–
–
–
–
Total
2.64
0.79
2.09
0.07
Stockpile (other)
Measured
–
–
–
–
Indicated
10.80
0.57
6.16
0.20
Inferred
2.76
0.68
1.88
0.06
Total
13.56
0.59
8.03
0.26
Stockpile (marginal ore)
Measured

0.32
0.62
0.19
0.01
Indicated
6.23
0.67
4.17
0.13
Inferred
–
–
–
–
Total
6.55
0.67
4.37
0.14
Iduapriem
Total
121.61
1.42
172.43
5.54

Estimation

Geostatistical techniques are employed in the estimation of the Mineral Resource. 3D wireframes are built from all geological information obtained from drillhole data, mapping of pits and geophysical data interpretations and where appropriate these wireframes are subdivided into the individual reef units that occur within a broad conglomerate package. Estimation is by ordinary kriging into block sizes that range from 5m to 25m in the X and Y directions and between 6m and 12m in the Z direction depending on the reef widths and data spacing. Densities are allocated from appropriate test work conducted on drillhole samples. Grade and tonnages are computed from these block models that are constrained within an optimised pit shell at the Mineral Resource reporting gold price.

Full grade and marginal stockpiles (ROM material) are surveyed on a monthly basis to validate tonnage measurements. Grade measurements on these stockpiles are based on RC grade control drilling from the individual pits mined. During recent years, historic stockpiles were drilled and estimated using geostatistical techniques. These stockpiles were reported as part of the Mineral Resource if material occurred above the economic cut-off grade at the Mineral Resource reporting gold price.

Iduapriem

Grade tonnage curve surface (metric) (attributable)

T
onnes above
cut-off (millions)
Average grade
above cut-off (g/t
)
120
100
80
60
40
20
0
2.6
2.4
2.2
2.0
1.8
1.6
1.4
0.1
0.9
1.1
1.3
1.5
1.7
0.3
0.5

0.7
1.9
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
The grade tonnage curve does not include stockpiles.
Exclusive Mineral Resource

Iduapriem Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	–	–	–	–
Indicated	46.45	1.36	63.11	2.03
Inferred	28.88	1.52	43.88	1.41
Total	75.32	1.42	106.99	3.44

The exclusive Mineral Resource is the part of the Mineral Resource that was not converted to Ore Reserve. It is defined as the Mineral Resource that is outside the current Ore Reserve designs, but inside the Mineral Resource shells and includes the Inferred Mineral Resource within the Ore Reserve design. 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 favorable costs. Exclusive Mineral Resource also includes material within the pit between the Mineral Resource and Ore Reserve cut-offs.

Americas
Administrative

CONTINENTAL AFRICA CONTINUED
I D U A P R I E M
Ounces
(millions)
5.60
5.50
5.40
5.30
5.20
5.10
5.00
0.00
0.00
0.00
0.00
0.00
0.00
-0.38
0.10
0.26
5.56
5.54
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Iduapriem year-on-year changes in Mineral Resource
Total (attributable)
Year-on-year changes included a decrease to the Mineral Resource as a result of depletion and increases as a result of exploration
drilling and cost reductions. The Mineral Resource decreased overall by a small amount.

1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
15
10
5
0
-5
-10
-15
-20
Iduapriem
Inclusive Mineral Resource sensitivity
Ore Reserve
Ore Reserve
Iduapriem
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Ajopa
Proved
–
–
–
–
Probable
2.28
1.88
4.27
0.14
Total
2.28
1.88
4.27
0.14
Block 3W
Proved
–
–
–

–
Probable
0.88
1.59
1.41
0.05
Total
0.88
1.59
1.41
0.05
Block 7 and 8 West cutback
Proved
–
–
–
–
Probable
11.06
1.46
16.09
0.52
Total
11.06
1.46
16.09
0.52
Block 7 and 8 East cutback
Proved
–
–
–
–
Probable
15.36
1.78
27.40
0.88
Total
15.36
1.78
27.40
0.88
Stockpile (full grade ore)
Proved
2.64
0.79
2.09
0.07
Probable
–

–
–
–
Total
2.64
0.79
2.09
0.07
Stockpile (other)
Proved
–
–
–
–
Probable
2.50
0.80
2.00
0.06
Total
2.50
0.80
2.00
0.06
Stockpile (marginal ore)
Proved
0.32
0.62
0.19
0.01
Probable
6.23
0.67
4.17
0.13
Total
6.55
0.67
4.37
0.14
Iduapriem
Total
41.26
1.40
57.63
1.85
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.
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.

The Mineral Resource is very sensitive to a drop in gold price due to the high stripping cost and capital intensive cutbacks required to access the deeper portions of the orebody.

CONTINENTAL AFRICA CONTINUED

I D U A P R I E M

Ore Reserve modifying factors

Iduapriem as at 31 December 2017	**Gold price US$/oz**	**Cut-off grade g/t Au**	**RMF % (based on tonnes)**	**RMF % (based on g/t)**	**MRF % (based on tonnes)**	**MRF % (based on g/t)**	**MCF %**	**MetRF %**
Ajopa	1,100	0.90	100.0	100.0	100.0	94.0	100.0	95.6
Block 3W. Block 3 and 4. Block 5	1,100	0.83	100.0	100.0	100.0	94.0	100.0	95.6
Block 7 and 8 East and West cutback	1,100	0.82	100.0	100.0	100.0			

94.0
100.0
95.6
Stockpile (full grade ore)
1,100
0.79
100.0
100.0
100.0
94.0
100.0
95.6
Stockpile (other)
1,100
0.55
100.0
100.0
100.0
94.0
100.0
92.0
Stockpile (marginal ore)
1,100
0.55
100.0
100.0
100.0
94.0
100.0
92.0
A mining recovery factor (MRF) of 94.0% was applied to the standard orebody models by reducing all block grades by 6.0% and
100% mining tonnage factor, which are based on reconciliation over a three-year period.
Inferred Mineral Resource in business plan
Iduapriem
as at 31 December 2017
Tonnes
million
Grade
g/t
Contained gold
tonnes Moz
Ajopa
0.51
1.83
0.94
0.03
Block 3W
0.53
1.52
0.81

0.03
Block 7 and 8 West cutback
0.03
1.61
0.05
0.00
Block 7 and 8 East cutback
0.11
1.26
0.14
0.00
Stockpile (other)
2.76
0.68
1.88
0.06
Total
3.94
0.97
3.81
0.12
Pockets of Inferred Mineral Resource within pit design to be converted by grade control plan.
Inferred Mineral Resource is included in the business plan. The overall Inferred Mineral Resource allowed for in the plan is around
9%. However, only Measured and Indicated Mineral Resource within the design of the selected pit shells are converted to
Ore Reserve.
Ounces
(millions)
2.00
1.75
1.50
1.25
1.00
0.00
0.00
0.00
0.00
0.00
0.00
-0.25
0.12
-0.14
0.27
1.85
1.84
2016
Depletion
Exploration
Methodolog
y

Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017

Iduapriem year-on-year changes in Ore Reserve

Total (attributable)

Overall an increase in the Ore Reserve as a result of additions at block 3W and lower mining costs which offset the depletion loss.

CONTINENTAL AFRICA CONTINUED

O B U A S I

Introduction

Property description

Obuasi gold mine is owned and operated by AngloGold Ashanti (Ghana) Limited (AGAG). AGAG was established following the merger of the former AngloGold Limited of South Africa and Ashanti Goldfields Company Limited of Ghana in April 2004.

Production started in 1897 and stopped in the last quarter of 2014, while the rest of the mine continued under limited operations, which included the development of the underground decline.

In February 2016, the entire mine was placed into care and maintenance.

The outcome indicated a strong technical and economical case with an anticipated 20-year mine life.

Location

Obuasi gold mine is located in the municipality of Obuasi, in the Ashanti region of Ghana, some 260km northwest of the capital Accra and 60km south of Kumasi.

History

Underground production was continuous from 1897 to 2014. A phase of open pit mining was conducted from 1988 to 2000 with small intermittent open pit mining beyond that period. Total historic production is ~33Moz gold, including ~5Moz gold from open pits.

Legal aspects and tenure

Obuasi gold mine concession previously covered an area of approximately 475km2 and had 80 communities within a 30km radius of the mine. This was reduced to 201.46km2 on the 3 March 2016. The majority of the reduced concession area falls in the Obuasi municipality. Minor portions of the new concession fall in the Adansi North, Adansi South and Amansie Central districts.

Obuasi Gold Mine's Mineral Resource and Ore Reserve is covered by a number of mining leases, namely:

- Obuasi Concession comprising 152.6km2
- Binsere Concession parts 1, 2 and 3 comprising 48.86km2

The duration of the mining concessions are covered by a stability agreement with the government of Ghana.

Mining method

Mine designs are done to delineate development layouts and production stopes by taking into consideration economical cut-off grade and geotechnical design parameters for each mining block, mining level and section. The underground development extends to a depth of 1,500m from surface. Mining levels lie between 15m and 20m intervals with major levels between 30m and 60m intervals. Underground production was by open-stope mining (both longitudinal and transverse), and sub-level caving method, with future designed production by longhole open-stope mining methods with paste fill. Ore is transported to surface via shafts or trucked up the decline.

Operational infrastructure

Existing infrastructure includes a 2.4Mtpa processing plant with flotation and bacterial oxidation (BIOX); underground development; hoisting shafts and associated infrastructure; power and water reticulation; office complexes; workshops and company housing estates. The current TSF is close to closure and plans for a new facility have been submitted to government authorities.

Mineral processing

The current processing plants can treat both oxide and fresh material. The main plant is configured for flotation and BIOX treatment that is required for the underground refractory sulphide ore type.

Risks

A favourable FS was completed in 2017 and was taken to the AngloGold Ashanti board in early 2018 where approval was given for implementation, provisional on the successful conclusion of negotiations with the Ghana government on a range of issues from environmental requirements to community issues to taxation.

The current Ore Reserve has been estimated based partially on the 2014/2015 Mineral Resource and partially on the 2016/2017 Mineral Resource. Therefore, the significant changes to the Mineral Resource resulting from the revised geological model and extensive data validation have not yet rolled through to all parts of the Ore Reserve. This is seen as a small risk but is more likely to represent a potential upside to the Ore Reserve.

An independent external Mineral Resource and Ore Reserve audit was undertaken in 2017 and found no fatal flaws in process or output.

!
(
!
(
!
(
Odumasi
Nyankumaso
Kwapia
Wawasi
Gyabunsu-Sibi
Sansu
to Kumasi
Mangoase
0
2
4
6km
Domiabra
Obuasi
Anyinam
Sansu
Anyankyirem
Dankwa
Boete
to Atekyem
Pompora TSF
Kokoteasua TSF
Adansi
Obuasi Deeps
Decline
KMS
South TSF
Pond 3
Jimi Dam
Licences
Mine infrastructure
Settlements
Roads
Limited operations
Pits
Plant
Ponds and dams
TSF
Waste dumps
Underground access
Consolidated operations footprint
Main
Secondary
Villages
Towns

Airfield
Plant centroid co-ordinates
1°41’16”E, 6°10’11”S
93

CONTINENTAL AFRICA CONTINUED

O B U A S I

Competent Persons

Obuasi

Category	Competent Person	Professional organisation	Membership number	Relevant experience	Qualification
Mineral Resource	Shaun Crisp	SACNASP	400076/09	15 years	BSc Hons (Geology)
Ore Reserve	Wayne Emslie	MAusIMM	211 371	22 years	BEng (Hons) (Mining)

Geology

Deposit type

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 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.

The Lower Birimian meta-sediments and meta-volcanics 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.
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 meta-volcanic 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.

Mineralisation style

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.

Mineralisation characteristics

Two main ore types are present, 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

No exploration was done during the year.

Projects

In 2014, a detailed FS began that considered the optimum mining methodology and schedules for the underground mine, based on modern mechanised mining methods and refurbishment of underground, surface and process plant infrastructure. It was recognised that a significant rationalisation and/or replacement of current infrastructure will enable the delivery of high utilisation and productivity metrics.

During this time Obuasi operated in a limited operating phase with underground activities essentially limited to continued development of the Obuasi deeps decline and underground infill drilling. The limited operating phase was brought to a halt after an incursion by illegal miners on Obuasi’s concession in February 2016. The mine has been under care and maintenance ever since.

S
N
Elevation
Graphitic Schist
Metavolcanics
Shear Vein Quartz
Sulphide Ore Zone
HW/FW
shears
Footwall lode 1
Main Obuasi fissure lode
Footwall lode 2
First Hanging wall lode
1,000m
Meta-Sedimentary rock
Meta-Volcanic rock
S-N Geological cross-section through Obuasi South mine
-200m
-400m
-600m
-800m
-1,000m

The FS was finalised in March 2016, with a schedule for the potential re-start of underground production. The FS was followed
up with an optimised FS that looked at reducing capital spend upfront. This was finalised at the end of 2017 and was taken to the
AngloGold Ashanti board in early 2018 for approval.

Provisional approval has now been given pending successful completion of negotiations with the Ghanaian government around
outstanding issues.

CONTINENTAL AFRICA CONTINUED
O B U A S I
Mineral Resource
Details of average drillhole 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
–
–
–
–
Indicated
60 x 60
–
–
–
–
Inferred
90 x 90,
120 x 120
–
–
–
–
Grade/ore control
10 x 10
–
–
Channel sampling of
cross-cuts
Inclusive Mineral Resource
Obuasi
as at 31 December 2017
Category
Tonnes
million
Grade
g/t
Contained gold
tonnes
Moz
Anyankyirem

Measured
–
–
–
–
Indicated
5.52
2.38
13.10
0.42
Inferred
0.09
2.71
0.24
0.01
Total
5.61
2.38
13.35
0.43
Anyinam
Measured
0.00
2.50
0.01
0.00
Indicated
0.45
3.54
1.59
0.05
Inferred
1.02
4.23
4.32
0.14
Total
1.47
4.02
5.92
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
Above 50 Level – Block 1
Measured
–
–
–
–
Indicated
10.29
5.16
53.10
1.71
Inferred
2.04
5.08
10.36
0.33
Total
12.33
5.15
63.46
2.04
Above 50 Level – Block 2
Measured
–
–
–
–
Indicated
8.69
5.94
51.61
1.66
Inferred
2.83
5.91
16.72
0.54
Total
11.52
5.93

68.32
2.20
Above 50 Level – Block 8
Measured
1.83
4.46
8.14
0.26
Indicated
29.72
5.65
168.02
5.40
Inferred
3.78
5.75
21.69
0.70
Total
35.32
5.60
197.86
6.36
Above 50 Level – Block 10
Measured
–
–
–
–
Indicated
21.20
6.09
129.08
4.15
Inferred
5.06
5.82
29.49
0.95
Total
26.26
6.04
158.57
5.10
Above 50 Level – Adansi
Measured
–
–
–
–
Indicated

5.48
14.52
79.59
2.56
Inferred
1.81
14.31
25.89
0.83
Total
7.29
14.47
105.49
3.39

Obuasi
as at 31 December 2017

Category	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Above 50 Level – Côte d’Or				
Measured	–	–	–	–
Indicated	0.01	18.03	0.19	0.01
Inferred	13.85	10.75	148.84	4.79
Total	13.86	10.76	149.03	4.79
Above 50 Level – Sansu				
Measured	1.63	6.87	11.18	0.36
Indicated	9.27	5.29	49.04	1.58
Inferred	2.61	5.41	14.09	0.45
Total	13.51	5.50	74.31	

2.39
Below 50 Level – Block 11
Measured
–
–
–
–
Indicated
3.26
21.51
70.19
2.26
Inferred
4.48
17.15
76.84
2.47
Total
7.74
18.99
147.03
4.73
Below 50 Level – Block 14
Measured
–
–
–
–
Indicated
1.50
7.95
11.96
0.38
Inferred
8.30
7.50
62.20
2.00
Total
9.80
7.56
74.16
2.38
Obuasi
Total
145.10
7.30
1,058.99
34.05
Estimation

During 2016 an exhaustive process of data review and validation took place which considerably increased the confidence of the input data and supported a refinement of the Mineral Resource models. The geological interpretation is based on DD, cross-cut sampling and underground mapping information. Block models are estimated within the delineated mineralised ore zones using ordinary kriging. Estimates at Obuasi are based on a block model comprised of 20m x 5m x 15m blocks, which approximate the minimum SMU for underground mining.

The open pit Mineral Resource at Obuasi was estimated by geostatistical techniques within 3D wireframe models of the mineralisation. These models are based on geological information and cut-off boundaries defined by sampling results. Geological interpretation is based on trench sampling and RC and/or DD. Estimation is by ordinary kriging into 30m x 30m x 10m blocks for Obuasi open pits.

Inclusive Mineral Resource
continued

Obuasi

Grade tonnage curve surface (metric) (attributable)

T
onnes above
cut-off (millions)
Average grade
above cut-off (g/t
)
17.50
15.00
12.50
10.00
7.50
5.00
2.50
0.00
7
6
5
4
3
2
1
0.5
2.5
3.0
3.5
4.0
5.0
1.0
1.5
2.0
4.5

Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Obuasi
Grade tonnage curve underground (metric) (attributable)

Tonnes above
cut-off (millions)
Average grade above
cut-off (g/t
)
142
125
108
91
74
57
40
23
6
43
37
31
25
19
13
7
0
2
8
6
4
10
14
16
20
18
12
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
97
Introduction
South Africa
Continental Africa
Australasia
Americas
Administrative

CONTINENTAL AFRICA CONTINUED

O B U A S I

Exclusive Mineral Resource

Obuasi			**Contained gold**	
Category	**Tonnes million**	**Grade g/t**	**tonnes**	**Moz**
as at 31 December 2017				
Measured	3.51	5.57	19.55	0.63
Indicated	78.76	5.65	445.28	14.32
Inferred	46.14	8.93	411.82	13.24
Total	128.41	6.83	876.64	28.18

The exclusive Mineral Resource is made up of Mineral Resource from underground and open pit. The bulk of the exclusive Mineral Resource is from underground, and is spread across the entire deposit, where further study and design, change in costs and/or gold price is required to develop economic extraction plans.

37% of the exclusive Mineral Resource is Inferred Mineral Resource and will require upgrading of its confidence to be able to report as an Ore Reserve.

Mineral Resource below infrastructure

Obuasi
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes

Moz
Measured
–
–
–
–
Indicated
4.77
17.23
82.15
2.64
Inferred
12.78
10.88
139.04
4.47
Total
17.55
12.61
221.19
7.11
Mineral Resource below infrastructure is primarily from below 50 Level.
Ounces
(millions)
36
34
32
30
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.56
33.49
34.05
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017

Obuasi

year-on-year changes in Mineral Resource

Total (attributable)

Changes in the Mineral Resource are mainly due to changes in the reporting methodology, which brought in mineralised areas that
had previously been excluded. This was offset, to some extent, by improvements in the historic depletion shapes, that increased
depletion and the downgrading of some low confidence Inferred Mineral Resource areas.

Obuasi is sensitive to changes in gold price, especially to a lower gold price, due to the lower grade sulphide mineralisation on the flanks of the high grade quartz.

1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
15
10
5
0
-5
-10
-15
-20
-25
-30

Obuasi

Inclusive Mineral Resource sensitivity

CONTINENTAL AFRICA CONTINUED
O B U A S I
Ore Reserve
Ore Reserve
Obuasi
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Above 50 Level – Block 1
Proved
–
–
–
–
Probable
0.91
6.49
5.91
0.19
Total
0.91
6.49
5.91
0.19
Above 50 Level – Block 2
Proved
–
–
–
–
Probable
1.35
6.08
8.22
0.26
Total
1.35
6.08
8.22
0.26
Above 50 Level – Block 8
Proved
–
–
–

–
Probable
7.24
8.16
59.04
1.90
Total
7.24
8.16
59.04
1.90
Above 50 Level – Block 10
Proved
–
–
–
–
Probable
6.42
7.28
46.73
1.50
Total
6.42
7.28
46.73
1.50
Above 50 Level – Adansi
Proved
–
–
–
–
Probable
0.74
16.60
12.36
0.40
Total
0.74
16.60
12.36
0.40
Above 50 Level – Côte d’Or
Proved
–
–
–
–
Probable
0.01

16.47
0.10
0.00
Total
0.01
16.47
0.10
0.00
Above 50 Level – Sansu
Proved
–
–
–
–
Probable
1.91
7.80
14.89
0.48
Total
1.91
7.80
14.89
0.48
Below 50 Level – Block 11
Proved
–
–
–
–
Probable
1.70
20.68
35.15
1.13
Total
1.70
20.68
35.15
1.13
Obuasi
Total
20.28
9.00
182.40
5.86
Estimation
3D Mineral Resource models are used as the basis for the Ore Reserve evaluation. Using the Mineral Resource block model, a
mineralisation envelope is developed by applying the relevant cut-off grade, which is then used for a mine design. An appropriate

mining layout is designed that incorporates mining extraction losses and dilution factors.
All mine designs are done to delineate stopes by taking into consideration cut-off grade, geotechnical design parameters for
each mining block, ventilation and backfill requirement, mining level and section, usually leading to an optimisation of the existing
infrastructure, mining sequence, and corresponding development layouts. The underground operationally runs to a depth of
1,500m from surface. Mining levels are between 15m 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.
The current Ore Reserve has been estimated based partially on the 2014/2015 Mineral Resource and partially on the 2016 Mineral
Resource. The significant changes to the Mineral Resource, resulting from the revised geological model and extensive data
validation, have not impacted the entire Ore Reserve with only the southern blocks re-designed to the 2016 Mineral Resource. The
blocks re-designed during 2017 include: Sansu, Block 8 and Block 10 (includes Block 9). The remaining blocks will be re-designed
during 2018.

Ore Reserve modifying factors

Obuasi as at 31 December 2017	**Gold price US$/oz**	**Cut-off grade g/t Au**	**Dilution %**	**MRF % (based on tonnes)**	**MRF % (based on g/t)**	**MCF %**	**MetRF %**
Above 50 Level – Block 1	1,100	4.20	14.0	96.0	100.0	100.0	87.0
Above 50 Level – Block 2	1,100	4.30	16.0	96.0	100.0	100.0	87.0
Above 50 Level – Block 8	1,100	4.10	15.0	96.0	100.0	100.0	87.0
Above 50 Level – Block 10	1,100	4.25	15.0	96.0	100.0	100.0	

87.0
Above 50 Level – Adansi
1,100
5.20
10.0
98.0
100.0
100.0
87.0
Above 50 Level – Côte d’Or
1,100
5.00
5.00
100.0
100.0
100.0
87.0
Above 50 Level – Sansu
1,100
4.10
15.0
95.0
100.0
100.0
87.0
Below 50 Level
1,100
5.20
16.0
96.0
100.0
100.0
87.0
Several factors are used for the modifying of the Ore Reserve and include mining recovery, dilution and processing recovery. These
are applied based on the mining method employed. A weighted average dilution factor equal to 15.5% is for all of the Ore Reserve.
Inferred Mineral Resource in business plan
Obuasi
as at 31 December 2017
Tonnes
million
Grade
g/t
Contained gold
tonnes
Moz
Above 50 Level
4.06
6.96
27.12

0.87
Below 50 Level
1.01
14.84
15.02
0.48
Total
5.08
8.30
42.13
1.35
Ore Reserve below infrastructure
Obuasi
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Proved
–
–
–
–
Probable
1.70
20.68
35.15
1.13
Total
1.70
20.68
35.15
1.13
Ore Reserve below infrastructure is restricted to the ground below 50 Level that requires a decline to access and is located between
50 and 60 Level below the Kwesi Mensah Shaft (KMS).
Ounces
(millions)
7
6
5
4
0.00
0.00
0.00
0.00
0.00

0.00
0.00
0.00
0.00
5.86
0.37
5.49
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Obuasi
year-on-year changes in Ore Reserve
Total (attributable)
Ore Reserve increased year-on-year as a result of updated mine designs for Sansu, Block 8 and Block 10 (Includes Block 9).
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Introduction
South Africa
Continental Africa
Australasia
Americas
Administrative

CONTINENTAL AFRICA CONTINUED
G U I N E A
GUINEA
Kankan
Dabola
Labe
Conakry
Operations
1 Siguiri (85%)
0
200km
1
Siguiri gold 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 north-northeast from the capital city of Conakry and 109km west of the border with Mali by road.

Gold-bearing ore is mined from several pits (generally three pits at any one time). The plant is currently being upgraded to process fresh material. This work will be completed during 2018.

Inclusive Mineral Resource
Guinea
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Measured
24.19
0.65
15.78
0.51
Indicated
156.34

0.84
131.43
4.23
Inferred
78.35
1.01
79.06
2.54
Total
258.88
0.87
226.27
7.27
Exclusive Mineral Resource
Guinea
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Measured
–
–
–
–
Indicated
85.09
0.83
70.30
2.26
Inferred
77.94
1.01
78.75
2.53
Total
163.04
0.91
149.04
4.79
Ore Reserve
Guinea
Tonnes
Grade
Contained gold
as at 31 December 2017
Category

million
g/t
tonnes
Moz
Proved
24.19
0.65
15.78
0.51
Probable
63.18
0.85
53.97
1.74
Total
87.37
0.80
69.75
2.24

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CONTINENTAL AFRICA CONTINUED

S I G U I R I

Introduction

Property description

Siguiri in Guinea is 85% owned by AngloGold Ashanti and 15% by the Government of Guinea. It is an ongoing open pit operation.

Location

The mine is located approximately 850km north-northeast of Conakry, 25km northwest of the town of Siguiri and 190km southeast of the Malian capital Bamako, near the Mali border.

History

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 1t and 3.8t 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 Miniere 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.

Société Aurifere de Guinea 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 of gold being produced. Due to a number of difficulties, the mine was shut down later that year. Golden Shamrock started a FS in 1995 after which Ashanti Goldfields invested in the deposit and Siguiri mine started production in 1998 as Société Ashanti Goldfields de Guinea (SAG).

The metallurgical plant is currently being upgraded to process hard rock and this is planned for completion in 2018.

Legal aspects and tenure

Siguiri is mined under licence from the government of Guinea. The published Mineral Resource and Ore Reserve are covered by SAG mining concession D/97/171/PRG/SGG, totalling 1,494.5km^2.

The SAG concession was granted under the Convention de Base between the République de Guinea and SAG signed on 4 August 1997. The concession is to be explored and mined exclusively for gold, silver and diamonds by SAG for 25 years from the date of the agreement, until 4 August 2022. The Convention de Base will guide the renewal of the mining concession in 2022. The SAG concession was granted under a new amended Convention de Base between the République de Guinea and SAG signed on 28 June 2016 and ratified by the Guinean parliament on 13 December 2016. The Convention de Base has been ratified by the constitutional court and published in the Journal Officiel of the Republic of Guinea on 24 January 2017. Dependent on the submission of the necessary renewal documentation on, or before, 4 March 2022 the concession is to be explored and mined exclusively for gold, silver and diamonds by SAG for 25 years from the date of agreement to 13 December 2041.

Mining method

Siguiri is currently a multi-pit oxide gold mining operation, operated by a contract miner. The mining method is selective conventional techniques using excavators and trucks on 3m high flitches. Three Caterpillar 6020B excavators are the main loading equipment matched with CAT 777G dump trucks. A SMU suitable for selective mining and nominated mining equipment of 5m x 5m x 3m based on historical grade control areas are used to simulate the expected mining dilution and ore losses.

Operational infrastructure

The Siguiri gold mine includes a processing plant, a tailings storage facility and other infrastructure such as a mine village, water supply system, roads, power supply by on site generators and communications systems. Additional infrastructure includes on site offices, accommodation and workshops to support remote mining.

Siguiri can be accessed via a small airfield and a well-paved road connects Siguiri to Bamako in the north and Kouroussa in the south. Access to the mine via roads and to Siguiri is easily passable through most of the year, although some secondary roads are seasonal with limited access during wet season.

Mineral processing

Processing of the ore is done by a CIP processing plant that has been successfully optimised to reach an average throughput of 11.8Mt per annum. Ore has historically been derived from a number of oxide pits in the Block 1 concession area, with the primary future ore supply provided by Seguélén (oxide ore), Kami and Bidini (both fresh rock ore).

The existing processing facility was designed for the processing of soft ore only and can only introduce a small percentage of fresh rock ore in the mill feed. A project is currently at implementation stage to upgrade the processing plant to treat up to 50% fresh rock ore by quarter four of 2018.

Risks

In previous Mineral Resource declarations a significant risk was raised concerning the validity of a valid mining concession and mining convention post 2018, the latter representing the earliest date that the mining convention of 1997 would have expired. The favourable conclusion of the Convention de Base negotiation during 2016 and its ratification in 2017 by parliament has significantly reduced the risk of the remaining Mineral Resource and Ore Reserve not being covered by a valid mining concession. The current mining concession is now confirmed to be valid until 4 August 2022, with high likelihood of renewal until 2041.

Block 1
Siguiri
Koron
Block 2
Block 3
Block 4
Foulata
Kounkoun
Kouremale
Saraya
Doko
0
10
20
30km
Gontoron
Didi
Saraya West
Kounkoun
Plant centroid co-ordinates
9°23’27”W, 11°33’54”N

Licences

Mining
Exploration

Mine infrastructure

ROM pad
TSF
Waste dumps
Deposit
Pits
Plant
Stockpiles
Leach pad

Settlements

Roads
Towns
Villages
Secondary
Main
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CONTINENTAL AFRICA CONTINUED
S I G U I R I
Competent Persons
Siguiri
Category
Competent Persons
Professional
organisation
Membership
number
Relevant
experience
Qualification
Mineral Resource
Steven Robins
MAusIMM
222 533
21 years
MSc (Mineral Resource
Evaluation), BSc Hons
(Geology), MBA
Ore Reserve
Desiderius Kamugisha
MAusIMM
227 181
16 years
BSc (Mining Engineering)
Geology
The Siguiri Gold Mine is situated in the northern part of the Siguiri Basin of Guinea, and is underlain by Lower Proterozoic rocks
of the Birimian meta-sedimentary and volcano-sedimentary formations. Where exposed, the sediments consist of a well-bedded
turbiditic sequence of greenschist facies siltstones, sandstones, greywackes and minor conglomerates, with some brecciated and
possibly volcanic members. Stratigraphic relationships in the area are however poorly understood due to poor exposure and a thick
lateritic duricrust. The typical regolith or laterite residual profile at Siguiri consists of four main sub-horizontal layers:
•
Lateritic Duricrust: a hard ferruginous (and aluminous) crust
•
Mottled Zone: a bauxite clay zone, produced by isovolumetric weathering, containing lateritic and gibbsitic nodules and
accumulations which impart a mottled appearance
•
Saprolite: a generally clay rich zone of weathered rock, composed of mixtures of kaolinite, hematite and/or goethite and/or
gibbsite. Although more than 20% of weatherable minerals are altered, primary fabrics are often preserved
•
Saprock/Transition zone: slightly weathered rock with less than 20% of weatherable minerals altered
Block 1
Siguiri

Gontoron
Koron
Kintinian
Balato
Setiguia
Komatiguia
Koufoulani
Fatoya
Fenserekolen
Boukaria
Kofilani
Kourouda
Tubani
Seguélén
Bidini
Kami
Sokunu
Sintroko
0
3
6
9km
Plant centroid co-ordinates
9°23’27”W, 11°33’54”N
Exploration
Pits
Plant
ROM pad
Main
Secondary
TSF
Waste dumps
Stockpiles
Leach pad
Villages
Towns
Mining
Licences
Mine infrastructure
Settlements
Roads

The main structural and lithological trend in the current mining area of Block 1, changes from a roughly N-S orientation in the south to NW-SE in the north.

The mineralisation at Siguiri occurs as a secondary gold in alluvial or colluvial gravel in lateritic cover and a primary vein hosted mineralisation. The veins are quartz dominant and display a variety of styles and orientations, with a sub-vertical NE-trending conjugate quartz vein set predominating in most of the open pits, irrespective of the orientation of the bedding. Auriferous quartz veins show a strong lithological control and are best developed in the sandstone/greywacke units. Current structural and mineralisation models remain poorly understood and vary from a thrust-related faulting and fracturing system to a large, shallow-to-moderately SW plunging asymmetric fold system, with auriferous quartz veins related to axial planar fracturing.

The geology of Block 2 differs from Block 1 in that the block is mostly underlain by meta-volcanics and volcani-clastics. Mineralisation styles appear to be similar as those in Block 1, with Saraya appearing to be located on a north-south orientated structure.

Deposit type

The Siguiri orebodies are early Proterozoic (Birimian) orogenic quartz-vein hosted deposits located in the Siguiri Basin of West Africa. Generally poorly exposed, the basin sediments have been subject to greenschist facies metamorphism and consist of a well-bedded turbiditic sedimentary sequence with some brecciated and possibly volcanic members. Mineralisation also occurs as secondary gold in alluvial and colluvial gravels in laterite cover.

Three main sedimentary packages are recognised in the Siguiri district, the Balato, Fatoya and Kintinian Formations. The Balato Formation is dominated by centimetre scale alternations of shale-siltstone and greywacke. The overlying Fatoya Formation consists of metre scale beds of greywacke fining towards the west. The Kintinian Formation is a thick package of shale and sandstone with a basal clast-supported conglomerate.

The orebodies are structurally controlled and the area has undergone at least three distinct phases of deformation, with initial N-S compression developing minor folds, the second and largest deformation event is associated with E-W to ENE-WSW directed compression leading to N-S structural architecture, and the third event was a NW-SE compression that led to refolding of existing structures.

A deep oxidation (weathering) profile is developed in the region, varying between 50m to 150m. The mineralised saprolite currently provides the main oxide feedstock for the CIP processing plant although a new treatment option has been approved to mine the fresh rock extensions of the ore deposits.

Mineralisation style

Primary gold mineralisation occurs in all three lithostratigraphic units of the Siguiri region although the majority of known mineralisation is found in the central and more competent Fatoya Formation. In some deposits the mineralisation shows strong lithological control and is preferentially developed in coarser-grained units that have higher fracture/vein densities relative to fine-grained rocks.

The mineralisation dominantly follows sub-vertical N-S thrusts, NE-SW dextral shear zones, and WNW-ESE sinistral faults associated with the main (D2) deformation event. The mineralised veins are remarkable for the relative consistency of their orientation (NE), despite the highly variable orientation of bedding and major structures.

Mineralised veins are more intensely developed along major structural trends with quartz-carbonate-sulphide veining developed along structures. Some of these structures have developed as incipient faults and are represented by discrete stockworks of mineralised quartz-carbonate veins occurring along a trend, instead of being clearly defined continuous structures.

Mineralisation characteristics

Two styles of primary mineralisation have been recognised at Siguiri. The first is characterised by precipitation of gold-bearing pyrite associated with proximal albite and distal carbon alteration, and opening of carbonate-pyrite veins. The second style corresponds to ENE-WSW trending native gold bearing quartz veins with carbonate selvages which crosscut carbonate-pyrite veins and show arsenopyrite (pyrite) halos.

CONTINENTAL AFRICA CONTINUED
S I G U I R I
Exploration
Exploration at Siguiri was historically focused on finding new oxide Mineral Resource in the saprolite, and upgrading the confidence
in the existing oxide Mineral Resource. This was achieved using geophysics, soil geochemistry and drillhole 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
two-fold. Firstly, to explore for replacement and additional oxide material for short-term mining requirements. Secondly, to increase
the level of confidence in the five major fresh rock targets below the existing oxide pits at Kami, Bidini, Tubani, Seguélén, Sokunu
and Sintroko.
309 drillholes totalling 28,418m was completed in 2017 and was primarily focused on increasing confidence in the Tubani,
Seguélén and Silakoro and Kami Mineral Resource for conversion to Indicated Mineral Resource thereby allowing estimation of an
Ore Reserve.
Infill drilling took place at Seguélén PB2, Kami, Tubani, and Silakoro, and reconnaissance drilling at Silakoro NE, Kolenda South
(Ellis Park) and John Deer. Preliminary interpretation of the airborne magnetic and radiometric geophysical survey over portions of
Block 1 and Block 2 and the Saraya West licence was completed. Seven targets were identified across the Seguélén West area,
as well as an area NE of the Foulata deposit and potential extensions of the Saraya mineralisation within the Saraya West licence.
These targets will be validated by field mapping, focusing on outcropping and artisanal mining activity. At the Saraya West PL, a
second phase of soil sampling was initiated, expanding the coverage of the 2016 programme. To date, 46% of the Saraya West
programme has been completed.
Target generation and evaluation of Block 1, the Corridor Blocks and TSF Exploration Licences was carried out and will be followed
up by reconnaissance work to investigate priority targets. A soil sampling programme to cover an untested area in the northwest of
Block1 has been completed.
SE-NW Geological cross-section through Bidini pit
200m
400m
100m
NW
SE
200m
Oxide
Fresh rock
1280100
mN
Bidini pit

Sanu Tinti pit
planned pit shell
Fatoya formation – Turbidites
sequences greywackes, siltstones,
mudstones
Kintinian formation –
shales dominated
Orebody
Fault
Oxide – fresh rock transition
Sanu Tinti Breccio-
conglomerate oligomictic
matrix supported

Projects

A FS to allow the exploitation of the fresh rock material was completed in December 2015. Called the combination plant project,
this project will upgrade the current plant and enable processing of a combination of oxides and fresh rock material. The plant
throughput will remain at 12Mtpa with a flexible design allowing up to 6Mtpa fresh rock material to be processed. Targeted fresh
rock pits include Kami, Bidini, Tubani, Sintroko, Seguélén and Sokuno. The FS was approved by the board of AngloGold Ashanti
following successful negotiations with the government of Guinea regarding the Convention de Base and having obtained access to
Seguélén Area 1. Construction of the combination plant commenced in 2017 and will be completed during 2018.
Conceptual studies have been initiated to evaluate the potential of mining in Block 2 and Block 3 with priority placed on the higher
value Block 2 deposits. Infill drilling, aimed to convert Inferred to Indicated Mineral Resource commenced in 2017 at Foulata and will
expand to Saraya in 2018, culminating in the start of a PFS in 2019.

Mineral Resource

Details of average drillhole 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, 25 x 25,
50 x 25

–

–

–

–

Inferred

20 x 40, 50 x 25,
50 x 50

–

–

–

–

Grade/ore control

5 x 10, 5 x 12,
10 x 5, 10 x 10,
13 x 8
–
–
–
In general the following drillhole spacing grids are used:
•
100m x 200m to define the extent and geometry of the anomaly (this is considered a pre-Mineral Resource)
•
50m x 50m to upgrade to Inferred Mineral Resource
•
25m x 25m (square or staggered) and 50m x 25m (Kami and Bidini) for Indicated Mineral Resource
•
10m x 5m (historic) and variable dependent on the deposit and continuity of mineralisation 12.5m x 5m, 12.5m x 7.5m or
15m x 5m for Measured Mineral Resource (grade control)
Inclusive Mineral Resource
Siguiri
as at 31 December 2017
Category
Tonnes
million
Grade
g/t
Contained gold
tonnes
Moz
Bidini (fresh rock)
Measured
–
–
–
–
Indicated
8.01
1.44
11.57
0.37
Inferred
1.96
1.39
2.72
0.09
Total
9.97
1.43
14.28
0.46
Bidini (oxide)
Measured

–
–
–
–
Indicated
3.01
0.93
2.81
0.09
Inferred
7.02
0.84
5.90
0.19
Total
10.03
0.87
8.71
0.28
Bidini (transitional)
Measured
–
–
–
–
Indicated
3.88
1.39
5.38
0.17
Inferred
0.84
1.33
1.12
0.04
Total
4.72
1.38
6.49
0.21
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CONTINENTAL AFRICA CONTINUED

S I G U I R I

Siguiri

as at 31 December 2017

Category		**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Eureka East	Measured	–	–	–	–
	Indicated	0.68	0.92	0.63	0.02
	Inferred	0.22	0.79	0.17	0.01
	Total	0.89	0.89	0.80	0.03
Foulata	Measured	–	–	–	–
	Indicated	–	–	–	–
	Inferred	3.21	1.33	4.28	0.14
	Total	3.21			

1.33
4.28
0.14
Kalamagna
Measured
–
–
–
–
Indicated
5.56
0.73
4.04
0.13
Inferred
2.78
0.72
2.00
0.06
Total
8.35
0.72
6.04
0.19
Kami (fresh rock)
Measured
–
–
–
–
Indicated
35.04
0.96
33.53
1.08
Inferred
4.36
0.86
3.76
0.12
Total
39.41
0.95
37.28
1.20
Kami (oxide)
Measured
–
–
–
–

Indicated
12.25
0.65
7.96
0.26
Inferred
2.32
0.68
1.59
0.05
Total
14.57
0.66
9.55
0.31
Kami (transitional)
Measured
–
–
–
–
Indicated
2.59
0.97
2.52
0.08
Inferred
0.30
0.79
0.24
0.01
Total
2.89
0.95
2.76
0.09
Kosise
Measured
–
–
–
–
Indicated
3.54
0.72
2.56
0.08
Inferred
4.03
0.66
2.64

0.09
Total
7.57
0.69
5.20
0.17
Kounkoun
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
9.53
1.28
12.19
0.39
Total
9.53
1.28
12.19
0.39
Kozan North
Measured
–
–
–
–
Indicated
8.23
0.67
5.50
0.18
Inferred
0.61
0.70
0.43
0.01
Total
8.84
0.67
5.93
0.19
Kozan South
Measured
–

–
–
–
Indicated
6.58
0.63
4.17
0.13
Inferred
0.36
0.95
0.34
0.01
Total
6.93
0.65
4.50
0.14
Seguélén (oxide)
Measured
–
–
–
–
Indicated
8.87
0.88
7.77
0.25
Inferred
2.75
0.78
2.14
0.07
Total
11.62
0.85
9.91
0.32
Inclusive Mineral Resource
continued

Inclusive Mineral Resource
continued
Siguiri
as at 31 December 2017

Category	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Seguélén (sulphide)				
Measured	–	–	–	–
Indicated	2.40	1.19	2.84	0.09
Inferred	3.35	1.06	3.55	0.11
Total	5.75	1.11	6.39	0.21
Seguélén (transitional)				
Measured	–	–	–	–
Indicated	1.58	1.07	1.69	0.05
Inferred	0.64	0.96	0.62	0.02
Total	2.22			

1.04
2.31
0.07
Saraya (sulphide)
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
2.29
2.88
6.59
0.21
Total
2.29
2.88
6.59
0.21
Saraya (oxide)
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
0.88
2.10
1.84
0.06
Total
0.88
2.10
1.84
0.06
Saraya (transitional)
Measured
–
–
–
–

Indicated
–
–
–
–
Inferred
0.57
2.57
1.47
0.05
Total
0.57
2.57
1.47
0.05
Sintroko South
Measured
–
–
–
–
Indicated
2.33
1.22
2.84
0.09
Inferred
0.32
1.82
0.58
0.02
Total
2.65
1.29
3.42
0.11
Silakoro
Measured
–
–
–
–
Indicated
0.88
2.04
1.79
0.06
Inferred
0.80
1.46
1.17

0.04
Total
1.68
1.76
2.96
0.10
Sokunu
Measured
–
–
–
–
Indicated
8.07
0.75
6.06
0.19
Inferred
6.04
0.87
5.25
0.17
Total
14.11
0.80
11.31
0.36
Soloni
Measured
–
–
–
–
Indicated
3.84
0.59
2.26
0.07
Inferred
3.59
0.70
2.50
0.08
Total
7.43
0.64
4.76
0.15
Sorofe (fresh rock)
Measured
–

–
–
–
Indicated
2.07
1.19
2.45
0.08
Inferred
1.39
1.38
1.92
0.06
Total
3.46
1.26
4.37
0.14
Sorofe (oxide)
Measured
–
–
–
–
Indicated
4.16
1.15
4.79
0.15
Inferred
3.27
1.20
3.94
0.13
Total
7.42
1.18
8.73
0.28
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CONTINENTAL AFRICA CONTINUED
S I G U I R I
The Siguiri inclusive Mineral Resource is reported above the mineralised waste cut-off within Whittle economic pit shells, based on a
gold price of $1,400/oz and considering mining, processing and operational costs.
Estimation
Mineral Resource definition drilling is done with aircore drilling (AC), RC and DD. All available geological drillhole information is
validated for usage in the Mineral Resource models and together with the local geology of the deposit, an understanding of grade
variability is used to categorise the drillhole 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.
The Mineral Resource model is estimated using ordinary kriging into a 3D block model. Geological interpretation is based on
geological drillhole 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 Mineral
Resource pit shell using a gold price of $1,400/oz.
Siguiri
Grade tonnage curve surface (metric) (attributable)
T
onnes above
cut-off (millions)
Average grade above
cut-off (g/t)
450
400
350
300
250
200
150
100
50
0
3.25
2.75
2.25
1.75
1.25
0.75
0.25
0.00
0.50
0.75
1.25
1.50
1.75
2.00

0.25
1.00
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
The grade tonnage curve does not include stockpiles.
Inclusive Mineral Resource
continued
Siguiri
as at 31 December 2017

Category	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Sorofe (transitional)				
Measured	–	–	–	–
Indicated	0.83	1.18	0.98	0.03
Inferred	1.53	1.66	2.54	0.08
Total	2.36	1.49	3.52	0.11
Stockpile (full grade ore)				
Measured	7.97	0.97	7.71	0.25
Indicated	–	–	–	–
Inferred				

–
–
–
–
Total
7.97
0.97
7.71
0.25
Stockpile (marginal ore)
Measured
16.22
0.50
8.07
0.26
Indicated
–
–
–
–
Inferred
–
–
–
–
Total
16.22
0.50
8.07
0.26
Stockpile (spent heap leach)
Measured
–
–
–
–
Indicated
31.95
0.54
17.29
0.56
Inferred
13.40
0.57
7.61
0.24
Total
45.35
0.55
24.90
0.80

Siguiri
Total
258.88
0.87
226.27
7.27
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Exclusive Mineral Resource

Siguiri

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	–	–	–	–
Indicated	85.09	0.83	70.30	2.26
Inferred	77.94	1.01	78.75	2.53
Total	163.04	0.91	149.04	4.79

The exclusive Mineral Resource at Siguiri includes:

- Indicated Mineral Resource that is economic at the Mineral Resource gold price of US$1,400/oz but not at the Ore Reserve price (this material forms approximately one third 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 2017 and 2018 to meet LOM planning requirements)
- Inferred Mineral Resource located within the Ore Reserve optimised pit shell (this material forms an insignificant proportion of the exclusive Mineral Resource)

Ounces
(millions)
8
7
6
5
0.00

0.00
0.00
0.00
-0.32
0.70
0.18
0.61
-0.05
6.15
7.27
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Siguiri
year-on-year changes in Mineral Resource
Total (attributable)
The primary contributors to the 18% increase in Siguiri's published Mineral Resource from 2016 to 2017 are exploration
(+0.825Moz) and cost improvements related to a change in mining contract (+0.718Moz). There were also minor contributions from
a change in grade capping strategy and reporting. As a result, the mining depletion (-0.346Moz) was more than offset, yielding a net
positive increase in published Mineral Resource of 1.323Moz.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
20
15
10
5
0
-5
-10
-15
Siguiri
Inclusive Mineral Resource sensitivity
As a low grade deposit, Siguiri is very sensitive

to gold price changes.

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S I G U I R I
Ore Reserve
Ore Reserve
Siguiri
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Bidini (fresh rock)
Proved
–
–
–
–
Probable
2.75
1.48
4.08
0.13
Total
2.75
1.48
4.08
0.13
Bidini (oxide)
Proved
–
–
–
–
Probable
1.77
0.98
1.74
0.06
Total
1.77
0.98
1.74
0.06
Bidini (transitional)
Proved
–
–
–

–
Probable
1.91
1.45
2.78
0.09
Total
1.91
1.45
2.78
0.09
Kami (fresh rock)
Proved
–
–
–
–
Probable
15.54
1.14
17.72
0.57
Total
15.54
1.14
17.72
0.57
Kami (oxide)
Proved
–
–
–
–
Probable
0.69
0.80
0.55
0.02
Total
0.69
0.80
0.55
0.02
Kami (transitional)
Proved
–
–
–
–
Probable
1.24

1.14
1.42
0.05
Total
1.24
1.14
1.42
0.05
Kozan North
Proved
–
–
–
–
Probable
1.79
0.69
1.25
0.04
Total
1.79
0.69
1.25
0.04
Seguélén (oxide)
Proved
–
–
–
–
Probable
0.51
1.06
0.55
0.02
Total
0.51
1.06
0.55
0.02
Seguélén (sulphide)
Proved
–
–
–
–
Probable
1.41
1.24
1.75
0.06

Total
1.41
1.24
1.75
0.06
Seguélén (transitional)
Proved
–
–
–
–
Probable
1.16
1.35
1.56
0.05
Total
1.16
1.35
1.56
0.05
Silakoro
Proved
–
–
–
–
Probable
0.59
1.80
1.07
0.03
Total
0.59
1.80
1.07
0.03
Sorofe (fresh rock)
Proved
–
–
–
–
Probable
1.01
1.29
1.30
0.04
Total
1.01
1.29

1.30
0.04
Sorofe (oxide)
Proved
–
–
–
–
Probable
0.59
1.03
0.60
0.02
Total
0.59
1.03
0.60
0.02
Sorofe (transitional)
Proved
–
–
–
–
Probable
0.26
1.19
0.31
0.01
Total
0.26
1.19
0.31
0.01

Siguiri
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Stockpile (full grade ore)
Proved
7.97
0.97
7.71
0.25
Probable
–
–
–
–
Total
7.97
0.97
7.71
0.25
Stockpile (marginal ore)
Proved
16.22
0.50
8.07
0.26
Probable
–
–
–
–
Total
16.22
0.50
8.07
0.26
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
87.37
0.80
69.75
2.24
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.
Ore Reserve modifying factors
Siguiri
as at 31 December 2017
Gold price
US$/oz
Cut-off
grade
g/t Au
Dilution
%
Dilution
g/t
RMF
% (based
on tonnes)
RMF
% (based
on g/t)
MRF
% (based
on tonnes)
MRF
% (based
on g/t)
MCF
%
MetRF
%
Bidini (fresh rock)
1,100

0.75
15.5
0.1
100.0
100.0
88.2
93.1
100.0
93.0
Bidini (oxide)
1,100
0.60
19.9
0.2
100.0
100.0
83.6
89.0
100.0
93.0
Bidini (transitional)
1,100
0.75
16.9
0.1
100.0
100.0
85.5
91.4
100.0
93.0
Kami (fresh rock)
1,100
0.75
4.9
0.6
100.0
100.0
99.3
99.5
100.0
93.0
Kami (oxide)
1,100
0.60
13.6
0.4
100.0
100.0
79.6
78.1

100.0
93.0
Kami (transitional)
1,100
0.75
5.2
0.5
100.0
100.0
89.1
89.5
100.0
93.0
Kosise
1,100
0.60
0.0
0.0
100.0
100.0
100.0
100.0
100.0
93.0
Kozan North
1,100
0.60
17.8
0.3
100.0
100.0
84.6
88.0
100.0
91.0
Seguélén (sulphide)
1,100
0.70
4.6
0.4
100.0
100.0
99.4
99.7
100.0
93.0
Seguélén (oxide)
1,100
0.60
6.8
0.3

100.0
100.0
87.6
85.6
100.0
91.0
Seguélén (transitional)
1,100
0.70
5.3
0.5
100.0
100.0
93.2
93.4
100.0
93.0
Silakoro
1,100
0.60
4.3
0.4
100.0
100.0
92.0
91.9
100.0
91.0
Sorofe (fresh rock)
1,100
0.75
15.4
0.2
100.0
100.0
89.1
93.4
100.0
93.0
Sorofe (oxide)
1,100
0.55
37.5
0.1
100.0
100.0
81.9
90.5
100.0
93.0
Sorofe (transitional)

1,100
0.75
27.4
0.2
100.0
100.0
80.9
87.9
100.0
93.0
Stockpile (full grade ore)
1,100
–
–
–
100.0
100.0
100.0
100.0
100.0
88.0
Stockpile (marginal ore)
1,100
–
–
–
100.0
100.0
100.0
100.0
100.0
91.0
Stockpile (spent heap leach)
1,100
–
–
–
100.0
100.0
100.0
100.0
100.0
90.0
The Mineral Resource models were modified to include the expected mining dilution and ore losses. These are built into the Mineral
Resource block model prior to pit optimisation. Additional modifying factors based on historical information were also applied prior
to estimation of Ore Reserve.
Ore Reserve
continued
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S I G U I R I

Changes in the Ore Reserve are mainly due to depletion, offset by conversion from Inferred Mineral Resource in Tubani (Sorofe) and
Silakoro pits and an overall drop in cost.

Inferred Mineral Resource in business plan

Siguiri as at 31 December 2017	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Bidini (fresh rock)	0.14	1.28	0.19	0.01
Bidini (oxide)	0.54	0.86	0.47	0.01
Bidini (transitional)	0.10	1.27	0.13	0.00
Kami (fresh rock)	0.27	0.87	0.24	0.01
Kami (oxide)	0.00	0.45	0.00	0.00
Kami (transitional)	0.00	0.64	0.00	0.00
Seguélén (oxide)	0.11	0.77	0.09	0.00
Seguélén (sulphide)	0.75			

1.17
0.87
0.03
Seguélén (transitional)
0.03
0.78
0.02
0.00
Silakoro
0.03
1.27
0.03
0.00
Sorofe (fresh rock)
0.13
1.38
0.18
0.01
Sorofe (oxide)
0.06
0.82
0.05
0.00
Sorofe (transitional)
0.00
0.90
0.00
0.00
Total
2.17
1.05
2.27
0.07
Ore Reserve does not include Inferred Mineral Resource, but within the pit design Inferred Mineral Resource is included. For the
optimisation the impact of excluding Inferred Mineral Resource is tested to determine if the pit sizes will still generate a positive cash
flow at $1,100/oz gold price.
Ounces
(millions)
2.5
2.4
2.3
2.2
2.1
2.0
0.00
0.00
0.00
0.00
0.00

2.24
-0.28
0.01
0.15
0.02
-0.1
2.44
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Siguiri year-on-year changes in Ore Reserve
Total (attributable)

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M A L I
MALI
Tombouctou
Gao
Sgou
Nioro
Bamako
Sikasso
Kayes
Operations
1 Sadiola (41%)
2 Morila (40%)
3 Yatela
(1)
(40%)
0
400km
1
3
2
(1)
Yatela is currently in closure mode.

AngloGold Ashanti has interests in three mines in the West African country of Mali, with two mines (Sadiola and Morila) being operational and one (Yatela) undergoing closure. Sadiola and Yatela are JV operations with IAMGOLD and the Government of Mali, while Morila is a JV with Randgold and the Government of Mali. Sadiola is currently considering a major pushback to access hard rock, Morila is a mature operation focusing on tailings reclamation and small satellite deposits, while Yatela is currently undergoing closure. The Sadiola operation is managed by AngloGold Ashanti while Randgold manages Morila. There is no Mineral Resource or Ore Reserve reported for Yatela.

Inclusive Mineral Resource
Mali
Tonnes
Grade
Contained gold
as at 31 December 2017

Category	million tonnes	g/t	tonnes	Moz
Measured	6.35	0.54	3.43	0.11
Indicated	50.30	1.79	89.94	2.89
Inferred	7.62	1.62	12.37	0.40
Total	64.27	1.65	105.74	3.40

Exclusive Mineral Resource

Mali

Category	Tonnes million	Grade g/t	Contained gold as at 31 December 2017 tonnes	Moz
Measured	–	–	–	–
Indicated	20.68	1.73	35.68	1.15
Inferred	7.62	1.62	12.37	0.40

Total
28.30
1.70
48.05
1.54
Ore Reserve
Mali
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Proved
0.10
2.14
0.22
0.01
Probable
32.58
1.69
54.97
1.77
Total
32.68
1.69
55.18
1.77
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Introduction

Property description

The mine is operated by Morila SA, a JV 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. In 2009, Morila was converted to a stockpile treatment operation. Closure of the operation was originally scheduled for 2013 but a pit pushback and a tailings treatment project has extended its life to 2019.

Location

The Morila mine is situated some 280km south-east of Bamako, the capital city of Mali.

History

In 1996 Morila was discovered by Randgold. A PFS in 1998 supported the fast tracking of the mine and, by August 1998, a bankable FS was underway. In 2000, a JV partner was sought and AngloGold purchased 40% of the mine and became the operator of the mine. In February 2001, the Malian president officially opened the mine.

During 2003, a capital expansion programme was completed and increased the production level to 350,000t per month by year-end. In 2008 AngloGold Ashanti considered Morila to be non-strategic and Randgold took over the operational responsibility for Morila.

In 2009 Morila started its transition to a stockpile and tailings retreatment operation.

Legal aspects and tenure

Morila's exploitation permit PE 99/15 (Decree No 99-217/PM-RM) covers 199.8km
2
and was issued
on 4 August 1999 for 30 years.

Mining method

The main pit has been mined via open pit and is now mined out. Production of the Domba satellite pit is via conventional open pit mining methods. Production is primarily retreatment of tailings and dumps.

Operational infrastructure

All operational infrastructures are in place to support a mining operation including a processing plant, power generation, village and TSF.

Mineral processing

Stockpile and tailing materials are being processed. The metallurgical plant utilises a conventional CIL process with an upfront gravity section to extract the free gold and has annual throughput capacity of 4.3Mt.

Risks

No material risks have been identified.

Competent Persons

Morila

Category	**Competent Person**	**Professional organisation**	**Membership number**	**Relevant experience**	**Qualification**
Mineral Resource and Ore Reserve	Rodney Quick*	SACNASP			

400014/05
24 years
BSc Hons (Geology), MSc
(Geology)
** Employed by Randgold, 3rd Floor, Unity Chambers, 28 Halkett Street, St Helier, Jersey OJE2*
Geology
The Morila deposit occurs within a sequence of amphibolite facies Birimian meta-sediments. The economic mineralisation is located
in these meta-sediments 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 meta-sediments 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).
Exploration
Exploration at Morila has been limited to reviews of potential targets, including the Samacline area and drilling at the Domba pit in
support of the evaluation of Domba as a potential short-term ore source.

Sanso
Morila
1.5
0
1.5
3km
Domba
Planned
waste dump and
pit
Ntiola project
Viper project
to
M
a
ss
ig
u
i
to Koumantou
to Zantiebougou
Plant centroid co-ordinates
06°50’23”W, 11°40’43”N
Pits
Plant
ROM pad
TSF
Waste dumps
Main
Secondary
Airfield
Prospects
Villages
Mine infrastructure
Mining
Settlements
Roads
Licences
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M O R I L A

Projects

Birimian option agreement

In 2016 Morila signed an option agreement with Birimian Gold Mali SARL (Birimian), which provides Morila access to Birimian's
Ntiola and Viper projects which are adjacent to the existing Morila permit.

In terms of the arrangements, Morila has an option to acquire the Ntiola and Viper projects after conducting exploration work and a
PFS. This work is ongoing.

Mineral Resource

Details of average drillhole spacing and type in relation to Mineral Resource classification

Morila
Type of drilling
Category
Spacing m (-x-)
Diamond
RC
Blasthole
Channel
Other
Comments
Measured
–
–
–
–
–
–
Indicated
10 x 5, 50 x 100
–
–
–
Auger drilling
Inferred
100 x 100
–
–
–
–
Auger drilling
Grade/ore control
10 x 5
–
–
–
–
Inclusive Mineral Resource
Morila
Category

as at 31 December 2017	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Satellite pit				
Measured	–	–	–	–
Indicated	0.10	1.62	0.16	0.01
Inferred	–	–	–	–
Total	0.10	1.62	0.16	0.01
TSF				
Measured	6.25	0.51	3.21	0.10
Indicated	–	–	–	–
Inferred	0.38	0.45	0.17	0.01
Total	6.63	0.51	3.38	0.11
Morila				

Total
6.73
0.53
3.54
0.11
Estimation
The Mineral Resource consists of material from TSF and Domba pit as marginal and mineralised waste stockpiles are depleted.
The TSF forms the bulk of the Mineral Resource and was drilled on a spacing of 50m x 50m and estimated using ordinary kriging
methods into a 50m x 50m block size.
Morila
Grade tonnage curve surface (metric) (attributable)
T
onnes above
cut-off (millions)
Average grade above
cut-off (g/t)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
9
8
7
6
5
4
3
2
1
0
0.0
0.5
1.5
2.5
3.0
3.5
4.0
4.5
2.0
5.0
1.0
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off

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Mineral Resource decreased as a result of normal mining depletion.
As it is a mature operation at the end of its life
with very little additional opportunity, Morila is
insensitive to an increase in gold price but very
sensitive on the downside.
Ounces
(millions)
0.20
0.15
0.10
0.05
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
-0.05
0.17
0.11
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Morila year-on-year changes in Mineral Resource
Total (attributable)
1,200
1,500
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
10
0
-10
-20
-30
-40

Morila
Inclusive Mineral Resource sensitivity
Exclusive Mineral Resource

Morila				
Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	–	–	–	–
Indicated	–	–	–	–
Inferred	0.38	0.45	0.17	0.01
Total	0.38	0.45	0.17	0.01

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M O R I L A

Ore Reserve

Ore Reserve

Morila	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Satellite pit	Proved	–	–	–	–
	Probable	0.12	1.35	0.16	0.01
	Total	0.12	1.35	0.16	0.01
TSF	Proved	–	–	–	–
	Probable	4.13	0.54	2.22	0.07
	Total	4.13	0.54	2.22	0.07
Morila	Total	4.25	0.56	2.38	

0.08
Estimation
The Mineral Resource models are used as the basis for the Ore Reserve. 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.
Ore Reserve modifying factors
Morila
as at 31 December 2017
Gold price
US$/oz
Cut-off
grade
g/t Au
Dilution
g/t
MRF
% (based on
tonnes)
MCF
%
MetRF
%
Satellite pit
1,000
0.00
0.2
97.0
100.0
91.0
TSF
1,000
0.49
0.1
–
100.0
57.0
$1,000/oz Ore Reserve price used by Randgold (operating partner). Only 5% dilution has been encountered for with reporting of
tonnages from the TSF.
Inferred Mineral Resource in business plan
There is no Inferred Mineral Resource included in the business plan.
Ounces
(millions)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.00

0.00
0.00
0.00
0.00
0.00
0.00
0.00
-0.04
0.01
0.08
0.11
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Morila
year-on-year changes in Ore Reserve
Total (attributable)
Depletion was offset slightly by the addition of the Domba open pit Ore Reserve.
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Introduction

Property description

The Sadiola gold deposit is mined by the Société d'Exploration des Mines d'Or de Sadiola SA (SEMOS) that consists of a JV agreement between AngloGold Ashanti (41%), IAMGOLD Corporation (41%) and the state of Mali (18%).

Location

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 property lies within the Galam Bambouk gold area, which straddles the Mali-Senegal border close to the border with Guinea.

History

Sadiola has a history of alluvial gold working dating back to the 11th century. In 1991/1992 IAMGOLD acquired the rights to the concession and explored the area, and in 1993 Anglo American entered into an earn-in option to the property. In 1994 a FS was completed on the property and accepted by the Mali government.

Construction started in 1995 and on 20 December 1996 the first gold was poured.

In November 2009, IAMGOLD and AngloGold Ashanti announced that they were acquiring the International Finance Corporations 6% interest for a total of $14.5 million.

A FS study, Sadiola Sulphide Project (SSP), looking at mining and processing the sulphide ore was completed in 2016, however a decision to proceed remains on hold while awaiting the conclusion of negotiations with the government.

Legal aspects and tenure

SEMOS is bound by the original prospecting and exploitation agreement (including its subsequent legal modifications) entered into on 5 April 1990 between AGEM Ltd. (AGEM) and the Mali government and the mining licence, valid for the original mineral commodities until 5 April 2020. The identity number of the current exploitation area, DECRET No 00-080/PM-RM DU 06 MARS 2000 is a modification of all previous exploitation areas. Sadiola is operated under the license DECRET No 00-080/PM-RM DU 06 MARS 2000 valid from 1 August 1994 to 1 August 2024 covering a total area of 303km

2

. The SSP project will extend operations beyond 2024. As part of the revision, an amended environmental and social impact assessment (ESIA) and associated permits are currently going through the approvals process. Dialogue with the government of Mali has been ongoing throughout the project study phase and, as such, there are no foreseeable reasons why the amended ESIA and associated approvals should not be approved.

Mining method

Current operations are focused on mining of oxide material from the FN pits, north of the Sadiola main pit, which is supplemented with low/marginal grade ore from stockpiles. 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 LOM plan. Mining is through conventional open pit mining methods. Current mining is carried out by a contractor and monitored by Wenco Fleet Management System 24/7.

Operational infrastructure

Sadiola includes a main pit and several smaller satellite pits, a processing plant, a TSF and other infrastructure such as a mine village, water supply system, roads, airstrip and communications systems. Since the beginning of the operation mining activities have been outsourced.

All mining occurs within the mining licence boundaries.

Mineral processing

Ore is treated in a 4.9Mtpa 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 blend currently undergoes preconditioning through separate 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 ROM sulphide material. This project will extend the life of Sadiola and leverage any further sulphide exploration successes in the region.

Risks

With the current LOM schedule, the oxide ore from pits will finish in 2018. After this only low grade stockpiles are available and can feed the processing plant until the second quarter of 2019.

Approval of the SSP is dependent on various approvals from the government of Mali. Dialogue with the government of Mali has been ongoing throughout the project study phase on these outstanding agreements. The project will remain paused until all approvals have been granted.

The site brownfields exploration team continues to look for opportunities that could extend the LOM until the project is commissioned.

Sekokoto
Tabakoto
Sirimana
Borokone
Sadiola
Sadiola
FN
!
(
FE4
FE3 South
to Sangafara
FE3 North
0
2
4
6km
Mine village
FE2
Tambali
!
(
Licences
Mine infrastructure
Roads
Settlements
Mining
ROM pad
Pits
Plant
TSF
Villages
Towns
Villages
Main
Secondary
Airfield
Waste dumps
Plant centroid co-ordinates
11°40’09”W, 13°53’27”N
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Australasia
Americas
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CONTINENTAL AFRICA CONTINUED

S A D I O L A

Competent Persons

Sadiola

Category	**Competent Person**	**Professional organisation**	**Membership number**	**Relevant experience**	**Qualification**
Mineral Resource	Geoffrey H. Gushee	MAusIMM	207 957	29 years	BA (Geology), GDE (Mining Engineering), MEng (Mineral Resource Management), MDP
Ore Reserve	Andrew Bridges	MAusIMM	300 976	19 years	BSc (Hons) Mining Engineering

Geology

The Sadiola gold deposits are located within the Malian portion of the Kenieba-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 to greenschist facies with amphibolite facies metamorphism observed in the contact aureoles around major intrusions.

Deposit type

The Sadiola deposit is considered a mesothermal shear-hosted gold deposit and can be correlated with an Ashanti-type orogenic gold model.

Mineralisation style

The Sadiola gold system displays the Sadiola Hill-style Au-As-Sb mineralisation. Within the Sadiola main pit the bulk of the ore is hosted within the brittle-ductile Sadiola Fracture Zone and impure footwall carbonates. Mineralisation also occurs along the array of NNE-trending shears although gold grade decreases with increasing distance from the Sadiola Fracture Zone. Mineralisation is shear-hosted and associated with a polyphase hydrothermal alteration history comprising an early calc-silicate phase followed by a potassic alteration stage. The metal associations of the ore typically comprise As-Au-Sb and minor to trace amounts of Cu-W-Mo-Ag-Bi-Zn-Pb-Te-Fe-bearing mineral species. Structural controls on primary mineralisation in the FE satellite

pits are similar to that of Sadiola but later karstification and protracted weathering resulted in the formation of a gold residuum.
Lithostratigraphic contacts also appear to have been an efficient interface for channeling fluids.

Oxide mineralisation

The geometry of the extensive, soft, oxide deposit and its supergene enrichment of gold relates almost exclusively to the weathering
history of the primary mineralisation. Intense tropical weathering has produced deep troughs of white to grey, decarbonated, kaolin-
rich saprolite, locally abundant nontronite and relative gold enrichment. Penetration of groundwater has caused oxidation of the
primary sulphides and the formation of acidic groundwaters, further promoting deeper argillisation of the bedrock.

Sulphide mineralisation

Drilling of the (unweathered) primary mineralisation has allowed detailed investigation of major and minor hydrothermal alteration
processes that were active during the formation of the deposit. Primary gold is fine grained, dominantly less than 15 microns,
with rare grains approaching 50 microns. Visible gold is rare. Gold mineralisation is associated with both arsenic and antimony
dominated sulphide assemblages of arsenopyrite, pyrrhotite, pyrite, stibnite and gudmuntite as well as potassic, calc-silicate,
propylitic alteration and silicification.

Mineralisation characteristics

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

At the FE pits, located about 7km to the southeast of the Sadiola main pit, mineralisation is hosted in marbles adjacent to the upper
contact with carbon-rich pelites. Gold is associated with north-northeast to northeast 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, located 2km to the south of the Sadiola main pit, 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. Tambali mineralisation is similar in style to the Sadiola main pit and it is
subjected to similar structural controls.

open pit

W-E Geological cross-section through Sadiola pit

W

-100m

-200m

-300m

-400m

100m

Ductile shear zone with mixed protolith

Brittle shear zone – carbonate breccia

Quartz-feldspar-phyric felsic metadyke

Metadiorite

Hangingwall metagreywacke

Footwall impure metalimestone

Orebody – Sadiola fracture zone (SFZ)

Section definition boundary

Elevation

E

Legend

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CONTINENTAL AFRICA CONTINUED

S A D I O L A

Exploration

The 2017 exploration campaign focused primarily on the remaining oxide targets within the lease with the view to add Ore Reserve to the current mine life. Exploration of the transitional and fresh rock potential was also carried out below the Tambali and FE pits in order to enhance the value of the future SSP.

Oxide exploration

The exploration programmes were derived from a review of the existing and potential new oxide targets using the latest geological information and updated geophysical interpretation.

RC drilling was completed at five oxide targets with the objective to delineate short term Ore Reserve to add to the mine life.

The results of the work showed limited narrow, low grade potential and did not warrant follow up prospecting.

Sulphide exploration

DD was conducted to investigate the extension of sulphide ore potential below the FE3 and Tambali oxide pits. At Tambali significant narrow high grade intersections were achieved at depth. This potential sulphide Mineral Resource is recommended for follow up.

The FE3 drilling along strike intersected low grades confined to narrow alteration zones in fresh rock with limited economic potential.

Additional core drilling for sterilisation of the deeper FE4 sulphide Mineral Resource was conducted. Results confirmed the continuity of a narrow mineralisation trend into the sulphide zone but with low probability of economic potential.

Geochemical analysis in the form of multi-element portable X-ray Fluorescence (pXRF) was conducted on the drill samples.

The results assisted in geometallurgical characterisation and lithological differentiation in the deep core drilling and in the RC drill chips. The analysis of pathfinder elements was also used in oxide targeting.

Projects

The SSP remains the only major AngloGold Ashanti project in Mali and is the focus for extension of the LOM. The project has been re-evaluated and optimised in light of the current economic and political climate. The project consists of a new pushback in the Sadiola main pit in order to mine the underlying sulphide ore, and an expansion and upgrade of the existing processing plant to be able to treat the sulphide ore. The revised project extends operations beyond 2024. As part of the revision, an amended ESIA was completed in 2017 and approved by the government of Mali. Dialogue with the government of Mali has been ongoing throughout the project study phase. The project is paused pending favourable conclusion of discussions with the government of Mali on fiscal agreements.

Mineral Resource

Details of average drillhole spacing and type in relation to Mineral Resource classification

Sadiola

Type of drilling

Category

Spacing m (-x-)

Diamond

RC
Blasthole
Channel
Other
Comments
Measured
6.25 x 12.5
–
–
–
–
Indicated
25 x 25, 50 x 25
–
–
–
–
Inferred
50 x 50
–
–
–
–
Grade/ore control
5 x 10,
6.25 x 12.5
–
–
–
–

Inclusive Mineral Resource
Sadiola
as at 31 December 2017
Category
Tonnes
million
Grade
g/t
Contained gold
tonnes
Moz
FE2
Measured
–
–
–
–
Indicated
0.14
1.48
0.20
0.01
Inferred
0.00
1.30
0.00
0.00
Total
0.14
1.48
0.20
0.01
FE3
Measured
–
–
–
–
Indicated
1.04
1.83
1.89
0.06
Inferred
0.03
2.11
0.07
0.00
Total
1.07
1.84

1.96
0.06
FE4
Measured
–
–
–
–
Indicated
0.06
2.36
0.14
0.00
Inferred
0.01
2.84
0.03
0.00
Total
0.07
2.42
0.16
0.01
FN
Measured
–
–
–
–
Indicated
2.44
1.35
3.29
0.11
Inferred
0.30
1.19
0.36
0.01
Total
2.74
1.33
3.65
0.12
Tabakoto (Sekokoto)
Measured
–
–
–
–
Indicated

0.63
1.39
0.87
0.03
Inferred
0.05
1.16
0.06
0.00
Total
0.68
1.37
0.93
0.03
Tambali
Measured
–
–
–
–
Indicated
1.70
1.04
1.77
0.06
Inferred
0.50
1.19
0.59
0.02
Total
2.20
1.08
2.36
0.08
SSP (oxide)
Measured
–
–
–
–
Indicated
1.71
1.30
2.24
0.07
Inferred
0.19
1.05
0.20
0.01

Total
1.91
1.28
2.44
0.08
SSP (transitional)
Measured
–
–
–
–
Indicated
1.18
1.89
2.22
0.07
Inferred
0.14
1.57
0.22
0.01
Total
1.32
1.85
2.44
0.08
SSP (sulphide)
Measured
–
–
–
–
Indicated
36.75
1.94
71.44
2.30
Inferred
6.02
1.77
10.67
0.34
Total
42.77
1.92
82.11
2.64
Total stockpiles
Measured
0.10
2.14

0.22
0.01
Indicated
4.56
1.25
5.71
0.18
Inferred
–
–
–
–
Total
4.66
1.27
5.93
0.19
Sadiola
Total
57.55
1.78
102.19
3.29
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CONTINENTAL AFRICA CONTINUED

S A D I O L A

Exclusive Mineral Resource

Sadiola				
Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	–	–	–	–
Indicated	20.68	1.73	35.68	1.15
Inferred	7.24	1.68	12.20	0.39
Total	27.92	1.71	47.88	1.54

The exclusive Mineral Resource is the part of the Mineral Resource that was not converted to Ore Reserve. It is defined as the Mineral Resource that is outside the current Ore Reserve designs, but inside the Mineral Resource shells and includes the Inferred Mineral Resource within the Ore Reserve design.

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 grade tonnage curve does not include stockpiles.

Sadiola

Grade tonnage curve surface (metric) (attributable)

T
onnes above
cut-off (millions)

Average grade above
cut-off (g/t)

400
350
300
250
200
150
100
50
0
3.0
2.5
2.0
1.5
1.0
0.5
0.0 0.1
0.3
0.5 0.6 0.7 0.8 0.9
0.4
1.2 1.3 1.4 1.5
0.2
1.0 1.1
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Estimation
The Mineral Resource is taken as the material that falls within the $1,400/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 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) or localised uniform conditioning (LUC) is used to estimate the proportion of material that occurs
above the cut-off, hence forming a recoverable Mineral Resource model at a specific SMU.

A slight increase in cost from the updated FS resulted in higher cut-off grades. These changes had a slight impact on all of the
sulphide project pits. Infill drilling at the FE3, Tambali and FN satellite pits resulted in exploration gains.

Ounces
(millions)
3.5
3.0
2.5
0.00
0.00
0.00
0.00
0.00
-0.08
0.09
0.02
-0.08
3.34
3.29
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017

Sadiola year-on-year changes in Mineral Resource

Total (attributable)

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CONTINENTAL AFRICA CONTINUED
S A D I O L A
Ore Reserve
Ore Reserve
Sadiola
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
FE3
Proved
–
–
–
–
Probable
0.18
1.18
0.21
0.01
Total
0.18
1.18
0.21
0.01
FE4
Proved
–
–
–
–
Probable
0.05
2.15
0.10
0.00
Total
0.05
2.15
0.10
0.00
FN
Proved
–
–
–

–
Probable
0.76
1.47
1.11
0.04
Total
0.76
1.47
1.11
0.04
Tabakoto (Sekokoto)
Proved
–
–
–
–
Probable
0.27
1.52
0.41
0.01
Total
0.27
1.52
0.41
0.01
Tambali
Proved
–
–
–
–
Probable
0.24
0.95
0.22
0.01
Total
0.24
0.95
0.22
0.01
SSP (oxide)
Proved
–
–
–
–
Probable
0.66

1.52
1.00
0.03
Total
0.66
1.52
1.00
0.03
SSP (transitional)
Proved
–
–
–
–
Probable
0.62
2.17
1.34
0.04
Total
0.62
2.17
1.34
0.04
SSP (sulphide)
Proved
–
–
–
–
Probable
21.02
2.02
42.49
1.37
Total
21.02
2.02
42.49
1.37
Total stockpiles
Proved
0.10
2.14
0.22
0.01
Probable
4.56
1.25
5.71
0.18

Total
4.66
1.27
5.93
0.19
Sadiola
Total
28.43
1.86
52.80
1.70
Sadiola is sensitive to gold price changes due to the marginal nature of the satellite pits.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
7.5
5.0
2.5
0.0
-2.5
-5.0
-7.5
-10
-12.5
-15.0
-17.5
Sadiola
Inclusive Mineral Resource sensitivity

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.

Ore Reserve modifying factors

Sadiola as at 31 December 2017	**Gold price US$/oz**	**Cut-off grade g/t Au**	**Dilution %**	**RMF % (based on tonnes)**	**MCF %**	**MetRF %**
FE3	1,200	0.58	17.6	85.0	100.0	75.0 – 94.0
FE4	1,200	0.85	9.0	97.0	100.0	75.0 – 94.0
FN	1,200	0.87	17.6	85.0	100.0	75.0 – 94.0
Tabakoto (Sekokoto)	1,200	0.85	17.6	85.0	100.0	75.0 – 94.0

Tambali
1,200
0.55
17.6
85.0
100.0
75.0 – 94.0
SSP (oxide)
1,200
0.51
5.0
95.0
100.0
85.0 – 94.0
SSP (transitional)
1,200
0.78
5.0
95.0
100.0
75.0
SSP (sulphide)
1,200
0.77
5.0
95.0
100.0
76.0 – 80.0
Total stockpiles
1,200
0.77
–
–
100.0
76.0
Recovery factor varies according to ore type (laterite, saprolite, siliceous oxide, saprolitic sulphide, hard sulphide, intermediate oxide,
intermediate sulphide, transitional and graphitic). $1,200/oz Ore Reserve price used for the SSP project and short term oxide pits.
The modifying factors applied to the Ore Reserve for Sadiola are ore loss and dilution. For the satellite pits, due to the nature of the
mineralisation, the ore loss and dilution are different from the SSP main pit. These modifying factors have been applied to reflect
current mining practices.
The SSP main pit utilises ore loss incorporated into the modelling process. The other satellite pits have variable ore loss and dilution
applied dependent on mining method. The pits that are to be mined as part of the current operation have between 0% and 9%
applied while those that are to be mined as part of the SSP have 15% ore loss and 17.6% dilution applied. The latter is to allow for
mining by a face shovel rather than an excavator.

Inferred Mineral Resource in business plan

Sadiola **as at 31 December 2017**	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
FE3	0.00	0.95	0.00	0.00
FE4	0.00	2.63	0.01	0.00
Tabakoto (Sekokoto)	0.01	1.42	0.01	0.00
Tambali	0.03	0.99	0.03	0.00
SSP (oxide)	0.04	1.42	0.06	0.00
SSP (transitional)	0.05	1.72	0.09	0.00
SSP (sulphide)	0.52	1.59	0.82	0.03
FN	0.02	1.24	0.03	0.00
Total				

0.68
1.55
1.05
0.03
Inferred Mineral Resource material has been included in the business plan as incidental material when the pit is mined. Several of
the small oxide pits that are included in the bridging period until the main SSP pit is mined contain Inferred Mineral Resource with
the overall Inferred Mineral Resource included in the total business plan less than 3%.

CONTINENTAL AFRICA CONTINUED
S A D I O L A
Ounces
(millions)
2.00
1.75
1.50
0.00
0.00
0.00
0.00
0.00
1.70
-0.06
0.13
-0.06
-0.01
-0.11
1.80
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Sadiola
year-on-year changes in Ore Reserve
Total (attributable)
There are four key components to the year-on-year changes in Ore Reserve ounces. There were decreases due to depletion, cost
updates and designs and additions due to a revised Mineral Resource model. The costs were updated with data from the 2016 FS.

CONTINENTAL AFRICA CONTINUED
T A N Z A N I A
Lake
Victoria
TANZANIA
Arusha
Mwanza
Tabora
Tanga
Dodoma
Dar-es-Salaam
Kigoma
Lake
Tanganyika
Operations
1 Geita
1
0
200km
Geita is AngloGold Ashanti's only operation in Tanzania and one of the largest open pit gold mines in Africa. Prior to April 2004, Geita was managed under a JV agreement between Ashanti and AngloGold. Since the merger, Geita is a wholly owned subsidiary of AngloGold Ashanti. In 2016 underground mining successfully started at a satellite deposit to provide ore to the processing plant and in late 2017, two additional portals were created that interfaced with the existing surface operations.
Inclusive Mineral Resource
Tanzania
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Measured
–
–
–
–

Indicated
29.24
3.41
99.65
3.20
Inferred
22.44
4.46
100.13
3.22
Total
51.68
3.87
199.78
6.42
Exclusive Mineral Resource
Tanzania
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Measured
–
–
–
–
Indicated
20.70
2.93
60.64
1.95
Inferred
22.44
4.46
100.13
3.22
Total
43.14
3.73
160.77
5.17
Ore Reserve
Tanzania
Tonnes
Grade
Contained gold

as at 31 December 2017

Category	**million**	**g/t**	**tonnes**	**Moz**
Proved	–	–	–	–
Probable	8.54	4.55	38.86	1.25
Total	8.54	4.55	38.86	1.25

CONTINENTAL AFRICA CONTINUED

G E I T A

Introduction

Property description

Geita is wholly owned by AngloGold Ashanti and currently sources ore from two open pits (Nyankanga and Geita Hill) and three underground sections (Star and Comet Cut 2, Star and Comet Cut 3 and Nyankanga Block 5). Underground mining commenced at Star and Comet in 2016 and at Nyankanga in 2017.

Location

Geita gold mine is located approximately 910km from the Tanzanian capital city of Dar es Salaam. It falls within the Lake Zone of northern-western Tanzania, approximately 120km west of Mwanza and 4km away from the town of Geita. The mining lease area falls within the Archaean Sukumaland Greenstone Belt of the Lake Victoria goldfields.

History

In 1936 the Geita deposits were first discovered and by 1966 three mines had produced almost 1Moz.

Ashanti acquired the project through acquisition of Cluff Resources in 1996 and in early December 2000, Ashanti reached an agreement to sell AngloGold a 50% interest in Geita for $324 million. AngloGold added its neighbouring Nyamulilima Hill deposits into the JV company. In 2004, the merger of AngloGold and Ashanti resulted in the operation being run by AngloGold Ashanti.

The decision was taken to go underground at Star and Comet in 2015 and the underground development started in 2016. In 2017 the Nyankanga underground operation was started.

Legal aspects and tenure

The special mining licence (SML45/99) covers approximately 196.17km^2 and expires on 26 August 2024. There are a further 120km^2 of prospecting licences in the immediate vicinity to the SML. However, these do not contain any Ore Reserve.

Mining method

Mining at Geita is by both open pit and underground methods. The open put mining is currently undertaken by conventional truck-and-shovel open pit mining method on two active pits (Nyankanga and Geita Hill). The open pit mining is conducted using Geita owned, operated and maintained fleet. A contractor provides drilling and blasting services. Underground mining commenced at Star and Comet in 2016 and subsequently at Nyankanga in 2017 following a mining study using the services of an underground mining contractor. Ore is hauled from the Star and Comet operation to the central ROM pad by the Geita surface mining fleet.

Operational infrastructure

As an ongoing operation Geita currently has an established 5.2Mtpa CIL processing plant capable of processing hard ore. It also has an established TSF with sufficient area to construct wall raises every three years to accommodate planned future production. A full workshop facility is in place to support the maintenance of heavy mining equipment and all light support equipment. Contractor infrastructure supported on the mine site includes workshops for the production and exploration drilling contractor, workshops for the underground mining contractor, as well as a plant for the explosives supplier. Geita has further support infrastructure in place including a mine village, medical clinic, mine store, administration buildings and an airstrip.

Mineral processing

Geita ore processing method is via conventional CIL process. The CIL plant has a throughput capacity of 5.2Mtpa. The circuit contains a primary gyratory crusher, secondary and tertiary crushers, a semi-autogenous mill, ball mill and 12 leach tanks. This is coupled with a gravity circuit through two knelson concentrators. In planning the plant feed blend material hardness, grade and sulphide content are considered in order to optimise throughput and recovery.

Risks

There are regular artisanal and small scale miners activities and illegal intrusions into the mine, but there is a holistic mitigation plan in process to manage this.

The primary risk remains the declining Ore Reserve profile. The mitigating actions put in place focus on optimising the exploration and project plans to convert both surface and underground Mineral Resource to Ore Reserve.

Competent Persons
Geita
Category
Competent Person
Professional
organisation
Membership
number
Relevant
experience
Qualification
Mineral Resource
Craig Duvel
SACNASP
400007/98
23 years
BSc Hons (Geology),
GDE (Mining Engineering)
Ore Reserve
Robert Van Der Westhuizen
MAusIMM
223 783
18 years
MSc (Engineering)
CONTINENTAL AFRICA CONTINUED
G E I T A
32°15'0"E
32°15'0"E
32°10'0"E
32°10'0"E
32°5'0"E
32°5'0"E
32°0'0"E
32°0'0"E
2
°
45'0"
S
2
°
45'0"
S
2
°
50'0"
S
2
°
50'0"
S
2

°
55'0"
S
2
°
55'0"
S
Star & Comet
Cut2
Nyankanga
Geita Hill
East
Mugusu
Mpomvu
Samina
Mchauru
Geita
0
2
4
6km
B4 portal
Geita Hill
West
B5 portal
Star & Comet
Cut3
P3
Matandani
Kukuluma
Licences
Roads
Settlements
Mining
Exploration
Pits
Plant
ROM pad
Stockpiles
TSF
Waste dumps
Main
Villages
Towns
Planned
Active
Secondary
Airfield
Mine infrastructure
Underground access
GEOLOGY

Deposit type

The Geita Greenstone Belt (GGB) hosts several world-class shear-hosted Archaean lode gold deposits and forms the northern portion of the regional Sukumaland Greenstone Belt, itself one of several belts that comprise the Lake Victoria goldfields. Other gold mines hosted in the Lake Victoria Goldfields include Golden Pride, Bulyanhulu, Tulawaka, Buzwagi and North Mara.

The east-west oriented GGB is 60km in length, 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 (BIF), volcaniclastics and meta-basalts.

These have been intruded by a variety of felsic to mafic intrusive bodies, dykes and sills. Gabbro dykes accommodated by regional north-northeasterly structures are also prominent geological features in the area.

North-west trending deformation corridors divide the GGB into three distinct sub-terrains, namely the Nyamulilima Terrain in the west (hosting the Star and Comet, Ridge 8 and Roberts deposits), the Central Terrain in the central part (hosting the Nyankanga, Geita Hill, Lone Cone and Chipaka deposits) and the Kukuluma Terrain to the north-east (hosting the Matandani, Kukuluma and Area 3 West deposits).

Mineralisation style

Geita's gold mineralisation is preferentially hosted in BIF, cherts and ironstones that have been affected by both ductile and dominant brittle deformation associated with shear zones. The shears preferentially exploit fold axial planes as well as the contacts between the supracrustal and intrusive rocks.

The GGB has been through a protracted history of deformation, which resulted in a large-scale synformal configuration in the Central Terrain, with west-northwest trending limbs connected by a north-east trending hinge zone. The deposits of the Central Terrain are mainly located within the relatively low-strain hinge zone. The Nyankanga deposit is hosted in a BIF-dominated supracrustal package that is extensively intruded by, and locally form a roof-pendant within the dioritic Nyankanga Intrusive Complex. At Geita Hill, dioritic rocks are present as sills and dykes intruded into a supracrustal sequence that has been subject to extensive polyphase folding.

To the west, the Nyamulilima Terrain comprises a semi-circular structure surrounding intrusive centers, which internally encompasses structural systems of variable scale that locally control gold mineralisation. At Star and Comet, a folded sedimentary package of BIF intercalated with clastic and tuffaceous meta-sediments is intruded by a tonalitic complex.

The Kukuluma Terrain trends west-northwesterly, with sub-vertical limbs being dominant over compressed, multiphase folded zones.

The three major deposits in the area (Kukuluma, Matandani and Area 3) are located along a 5km long east-southeast mineralisation trend. The geology of the deposits is dominated by volcano-sedimentary rocks that are polydeformed and intruded by syn- to late-folding diorite bodies. Host rocks for mineralisation are fine-grained iron-rich clastic sediments, cherts, BIF and tuffaceous rocks, with local intercalated carbonaceous shales.

Mineralisation characteristics

Gold mineralisation at Nyankanga occurs within a northeast-trending and northwest-dipping anastomosing shear system, typically along the lowermost shears, with higher grade mineralisation mainly proximal to the basal contact of BIF packages. Mineralisation is associated with chlorite-carbonate-silica alteration and pyrite-dominant sulphide in the damage zones surrounding the shear surfaces as veins, veinlets, local breccias and sulphide replacement of magnetite layers. At Geita Hill, mineralisation at the deposit scale is controlled by a narrow NE-trending and NW-dipping shear zone that exploits the axial surfaces of F3 folds. The bulk of the ore is also carried by damage zones adjacent to the main shear.

At Star and Comet, a major mineralised shear zone runs NNW-SSE through the deposit where it is localised along the contact of
BIF and tonalite. An envelope of mostly brittle deformation up to 10m thick (which affects both lithologies) occurs either side of the
shear zone and controls distribution of mineralisation. Most of the gold mineralisation is hosted in pyrrhotite patches associated with
strong silicification together with carbonate alteration.

Within the Kukuluma Terrain, steeply dipping ductile/brittle gold-fertile shear zones are developed along, or close to, the edges of
an elongate diorite body, hosted in iron-rich host rocks and locally exploiting axial surfaces of tight folds. Gold mineralisation in the
Kukuluma terrain is strongly associated with pyrrhotite, pyrite and arsenopyrite concentrations, accompanied by strong carbonate
and silica alteration of host rocks. Gold is present in gold minerals and sulphides, dominantly in arsenopyrite.

Exploration

Resource development drilling concentrated on Nyankanga underground, Star and Comet Cut 2 underground, Star and Comet Cut 3
underground and Geita Hill underground. The aim of the Mineral Resource development drilling was to upgrade the confidence in
the Mineral Resource to bring material within the underground mine design to Inferred and Indicated Mineral Resource classifications.

Resource delineation drilling was completed at several deposits to test for extensions to mineralisation that can be exploited by both
open pit and shallow underground methods. At Nyamulilima the drilling focused on testing the down-plunge extensions of the Star
and Comet Cut 2 and Cut 3 orebodies and at Matandani the drilling focused on testing an updated geological model targeting the
down-plunge extensions of high grade zones on both the eastern and western limbs of the deposit. The Star and Comet Cut 2 and
Cut 3 drilling returned positive results, as did the drilling on the eastern limb at Matandani. Reconnaisance drilling was carried out on
the Selous target at Nyamulilima, returning encouraging intersections.

Following the successful completion of a 2D Seismic survey in 2015, a major 3D Seismic survey project was completed over a
20km
2
area covering the Nyankanga and Geita Hill deposits in 2016. The survey produced high resolution results to a depth of

CONTINENTAL AFRICA CONTINUED

G E I T A

E-W Geological cross-section through Star and Comet

Structure

LEGEND

Section definition boundary

Shear zone

BIF

Brecciated BIF (zone)

Dolerite

Felsite

Lamphrophyre

Lithology

Tonalite

0 12.5 25 50m

1,100

1,100

1,300

1,300

1,500

0
100
200
300
400
500
600
700
0
100
200
300
400
500
600
700
1,500
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2017
Introduction
South Africa
Continental Africa
Australasia
Americas
Administrative

1,500m below these deposits. The data processing was completed in late 2016 and modelling and targeting was completed in the first half of 2017. Two of the targets in the Nyankanga area were drill-tested in the second half of 2017. Both drillholes confirmed the geological interpretation and the reflectors identified in the seismic data. The first drillhole returned gold intersections while the second drillhole results are expected in early 2018.

Detailed geological mapping of satellite targets was completed over three targets in the Nyamulilima terrain, three targets in the Central terrain and four targets on the prospecting licences. The detailed mapping of the targets will be used to update geological interpretations and design the reconnaisance drill plans. The detailed mapping continued through 2017 in Nyankanga and Geita Hill pits for the purposes of updating the geological models to be used in underground mine planning and exploration.

Projects

Geita's exploration strategy is focused on three areas. The first is the upgrading and extension of surface and underground Mineral Resource on the core producing deposits. The second is the aggressive exploration of satellite targets within the lease area which have potential to produce satellite deposit ore sources. The third is exploration to support major projects.

In the core areas, underground mining was successfully started at Star and Comet Cut 2 in 2016. Development to Star and Comet Cut 3 was initiated from the Cut 2 platform and the underground ore mining at Star and Comet Cut 3 was ramped up as planned in 2017. Underground exploration drilling has been successfully converting Inferred Mineral Resource to Indicated Mineral Resource and adding additional Mineral Resource in these two deposits. Detailed mine design, planning and permitting for Nyankanga underground was completed in 2016 and underground development commenced as planned at Blocks 4 and 5 in 2017. Following the successful implementation of underground operations at Star and Comet and Nyankanga, the underground exploration and development will be expanded to include Geita Hill and Ridge 8 deposits post 2018.

There are approximately 50 satellite targets within Geita leases. Resourcing of the satellite target exploration programme has lagged behind the core areas following the gold price decline in 2013 and the development of these targets has not kept pace with the core areas. The satellite target exploration programme was re-planned and dedicated resources were put in place in 2017 to support a more aggressive exploration programme on the satellite targets. Consistent with previous years, the 10 targets ranked as priority one will remain first on the schedule as they have potential to provide near term value in the mine plan.

The other major project at Geita is the refractory ore project which encompasses the four deposits of the Kukuluma terrain and their potential extensions: Matandani, Kukuluma, Area 3W and Area 3CS. Drilling was completed in 2015 within the Matandani pit, which contains the largest sulphide Mineral Resource potential, in order to obtain samples for further metallurgical test work. Metallurgical scoping test work was successfully concluded in 2016. The PFS, which was planned to commence in 2017, has been postponed while resources are focused on ramping up underground production.

Mineral Resource
Details of average drillhole 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, 20 x 20,
25 x 15, 25 x 25,
40 x 20, 40 x 40
–
–
–
–
Inferred
40 x 40, 50 x 50,
80 x 20, 80 x 40
–
–
–
–
Grade/ore control
5 x 10, 10 x 5
–
–
–
Underground:
diamond fan drilling
Open pit: RC grid
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CONTINENTAL AFRICA CONTINUED

G E I T A

Inclusive Mineral Resource

Geita as at 31 December 2017	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Area 3 West (oxide)	Measured	–	–	–	–
	Indicated	0.19	2.71	0.52	0.02
	Inferred	0.00	2.41	0.00	0.00
	Total	0.20	2.70	0.53	0.02
Chipaka	Measured	–	–	–	–
	Indicated	0.20	2.32	0.46	0.01
	Inferred	0.30	2.52	0.77	0.02
	Total				

0.50
2.44
1.23
0.04
Geita Hill (open pit)
Measured
–
–
–
–
Indicated
2.23
2.97
6.61
0.21
Inferred
0.50
2.09
1.05
0.03
Total
2.73
2.80
7.66
0.25
Kalondwa Hill
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
0.43
4.08
1.74
0.06
Total
0.43
4.08
1.74
0.06
Kukuluma (oxide)
Measured
–
–
–

–
Indicated
0.01
4.80
0.05
0.00
Inferred
0.00
2.78
0.01
0.00
Total
0.01
4.34
0.06
0.00
Kukuluma (transitional)
Measured
–
–
–
–
Indicated
0.09
4.64
0.41
0.01
Inferred
0.02
4.47
0.10
0.00
Total
0.11
4.60
0.51
0.02
Kukuluma (sulphide)
Measured
–
–
–
–
Indicated
0.02
5.21
0.11
0.00
Inferred
0.30
4.27

1.27
0.04
Total
0.32
4.33
1.38
0.04
Lone Cone
Measured
–
–
–
–
Indicated
0.92
3.00
2.76
0.09
Inferred
0.39
3.56
1.39
0.04
Total
1.31
3.17
4.14
0.13
Matandani (oxide)
Measured
–
–
–
–
Indicated
1.37
2.26
3.09
0.10
Inferred
0.70
2.27
1.60
0.05
Total
2.07
2.26
4.69
0.15
Matandani (transitional)
Measured

–
–
–
–
Indicated
0.09
3.77
0.33
0.01
Inferred
0.09
4.50
0.42
0.01
Total
0.18
4.15
0.74
0.02

Geita
as at 31 December 2017

Category	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Matandani (sulphide)				
Measured	–	–	–	–
Indicated	0.04	4.79	0.21	0.01
Inferred	2.37	4.65	11.02	0.35
Total	2.42	4.65	11.23	0.36
Nyankanga (open pit Cut 7)				
Measured	–	–	–	–
Indicated	0.11	3.88	0.43	0.01
Inferred	0.01	4.77	0.04	0.00
Total	0.12	3.95	0.47	

0.01
Nyankanga (open pit Cut 8)
Measured
–
–
–
–
Indicated
5.36
5.89
31.59
1.02
Inferred
0.37
1.63
0.60
0.02
Total
5.73
5.62
32.19
1.03
Ridge 8 (open pit)
Measured
–
–
–
–
Indicated
0.77
2.45
1.89
0.06
Inferred
0.00
1.30
0.00
0.00
Total
0.77
2.45
1.90
0.06
Roberts
Measured
–
–
–
–
Indicated
2.73

1.89
5.17
0.17
Inferred
0.07
5.25
0.35
0.01
Total
2.79
1.97
5.51
0.18
Star and Comet (open pit)
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
0.00
3.28
0.01
0.00
Total
0.00
3.28
0.01
0.00
Stockpile (full grade ore)
Measured
–
–
–
–
Indicated
0.39
2.74
1.07
0.03
Inferred
–
–
–
–
Total

0.39
2.74
1.07
0.03
Stockpile (marginal ore)
Measured
–
–
–
–
Indicated
8.88
0.99
8.77
0.28
Inferred
–
–
–
–
Total
8.88
0.99
8.77
0.28
Stockpile (refractory ore)
Measured
–
–
–
–
Indicated
0.56
2.80
1.57
0.05
Inferred
–
–
–
–
Total
0.56
2.80
1.57
0.05
Geita Hill (underground)
Measured
–
–
–

–
Indicated
0.76
3.81
2.89
0.09
Inferred
9.31
3.77
35.10
1.13
Total
10.07
3.77
37.98
1.22
Inclusive Mineral Resource
continued

CONTINENTAL AFRICA CONTINUED

G E I T A

Inclusive Mineral Resource continued

Geita

as at 31 December 2017

Category	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Nyankanga (underground) – Block 1				
Measured	–	–	–	–
Indicated	0.62	8.19	5.08	0.16
Inferred	0.43	6.84	2.93	0.09
Total	1.05	7.64	8.01	0.26
Nyankanga (underground) – Block 2				
Measured	–	–	–	–
Indicated	0.40	5.94	2.38	0.08
Inferred	0.77	6.18	4.76	0.15

Total
1.17
6.10
7.15
0.23
Nyankanga (underground) – Block 3
Measured
–
–
–
–
Indicated
0.31
5.04
1.54
0.05
Inferred
0.84
5.67
4.76
0.15
Total
1.15
5.50
6.31
0.20
Nyankanga (underground) – Block 4
Measured
–
–
–
–
Indicated
0.45
6.83
3.08
0.10
Inferred
2.46
5.83
14.34
0.46
Total
2.91
5.99
17.42
0.56
Nyankanga (underground) – Block 5
Measured
–
–

–
–
Indicated
0.67
7.85
5.25
0.17
Inferred
0.40
6.91
2.74
0.09
Total
1.07
7.50
8.00
0.26
Ridge 8 (underground)
Measured
–
–
–
–
Indicated
0.61
4.88
3.00
0.10
Inferred
1.62
5.46
8.83
0.28
Total
2.23
5.30
11.83
0.38
Star and Comet (underground Cut 2)
Measured
–
–
–
–
Indicated
0.56
7.73
4.36
0.14
Inferred
0.05

8.35
0.38
0.01
Total
0.61
7.78
4.74
0.15
Star and Comet (underground Cut 3)
Measured
–
–
–
–
Indicated
0.89
7.87
7.02
0.23
Inferred
1.00
5.93
5.91
0.19
Total
1.89
6.85
12.92
0.42
Geita
Total
51.68
3.87
199.78
6.42
Estimation
For the open pits, the mineralisation boundaries for the individual deposits are defined from the detailed logging of all geological
drillholes. 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 generate a recoverable Mineral Resource model which estimates the proportion of ore that occurs above the
Mineral Resource cut-off grade assuming a specified SMU. The open pit Mineral Resource is reported within a $1,400/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.

2017
Introduction
South Africa
Continental Africa
Australasia
Americas
Administrative

Geita
Grade tonnage curve surface (metric) (attributable)
T
onnes above
cut-off (millions)
Average
grade above
cut-off (g/t)
60
50
40
30
20
10
0
9
8
7
6
5
4
3
2
0.5
2.5
3.0
3.5
4.0
5.0
1.0
1.5
2.0
4.5
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Geita
Grade tonnage curve underground (metric) (attributable)

Tonnes
above
cut-off
(millions)
Average grade above
cut-off (g/t
)
23
21
19
17
15

13
11
9
9
8
7
6
5
0.0
0.5
1.5
2.0
2.5
3.5
4.0
4.5
5.0
1.0
3.0
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
The grade tonnage curve does not include stockpiles.
Exclusive Mineral Resource

Geita Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	–	–	–	–
Indicated	20.70	2.93	60.64	1.95
Inferred	22.44	4.46	100.13	3.22
Total	43.14			

3.73
160.77
5.17
The exclusive Mineral Resource at Geita consists of:
•
The underground Mineral Resource (with the exception of Indicated Mineral Resource within the Nyankanga Block 5 and Star and
Comet cuts 2 and 3 mine design where an underground Ore Reserve has been declared)
•
All open pit Mineral Resource that is located between the Ore Reserve pit shell (at a gold price of $1,100/oz) and the Mineral
Resource pit shell (at a gold price of $1,400/oz)
•
Material within the Ore Reserve pit shell that is Inferred Mineral Resource or falls below the Ore Reserve cut-off grade and above
the Mineral Resource cut-off grade
•
Material within the Nyankanga Block 5 and Star and Comet Cuts 2 and 3 underground mine designs that is Inferred Mineral
Resource
This material forms potential extensions to the current LOM if it can be converted to Ore Reserve. A significant portion of this
material is in the Inferred Mineral Resource category and infill drilling programmes are planned to upgrade potentially economical
areas to Indicated Mineral Resource.
For the underground Mineral Resource, the geological model and the mineralised boundary are generated in the same way as for
the open pits. However, a high grade wireframe is delineated within the broader, lower grade mineralised envelope. In this instance,
all geological controls are adhered to when determining this domain. Ordinary kriging models are then constructed within the low
and high grade domains and numerous validation exercises are completed to ensure robust estimates are achieved. The ultimate
open pit designs are used as the limiting boundaries between open pit and underground during the model compilation. The
underground Mineral Resource is reported inside a mineable shape optimiser (MSO) shape generated using a given underground
cut-off grade for each deposit. The underground stopes and development are evaluated using the ordinary kriging models and the
open pit designs are evaluated using the UC models.

CONTINENTAL AFRICA CONTINUED
G E I T A
Ounces
(millions)
8
7
6
5
4
0.00
0.00
0.00
0.00
0.00
-0.54
-0.24
-0.25
0.14
7.32
6.42
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Geita
year-on-year changes in Mineral Resource
Total (attributable)
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
20
15
10
5
0
-5
-10

-15

Geita

Inclusive Mineral Resource sensitivity

As at 31 December 2017, there is a decrease of approximately 0.90Moz (12.3%) in comparison to the previous year's declaration.

The significant movements are because of depletion (0.54Moz), cost increase (0.25Moz) and a loss of 0.24Moz due to a change in methodology for reporting material in the crown pillar. Previously all material above the open pit cut-off grade in the crown pillar was reported as open pit Mineral Resource whereas, in 2017, only the material within an MSO shape, derived using higher underground cut-off grades, is reported as underground Mineral Resource. This was offset by a small gain of 0.14Moz by including Inferred Mineral Resource previously excluded from the open pit optimisation at Matandani.

Geita is not very sensitive to a drop in gold price as it is transitioning from an open pit to an underground operation.

Mineral Resource below infrastructure

Geita

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	–	–	–	–
Indicated	3.15	5.70	17.97	0.58
Inferred	15.43	4.58	70.73	2.27
Total	18.58	4.77	88.69	2.85

Any underground Mineral Resource for which there is neither an established portal nor significant underground infrastructure to

access the Mineral Resource is reported as Mineral Resource below infrastructure. As such, all underground Mineral Resource with
the exception of Nyankanga Block 5 and Star and Comet cuts 2 and 3 (which have established portals and significant development
in place as at 31 December 2017) have been separately categorised as Mineral Resource below infrastructure.

Ore Reserve
Ore Reserve
Geita
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Geita Hill (open pit)
Proved
–
–
–
–
Probable
0.21
3.48
0.73
0.02
Total
0.21
3.48
0.73
0.02
Nyankanga (open pit) Cut 8
Proved
–
–
–
–
Probable
4.55
5.53
25.17
0.81
Total
4.55
5.53
25.17
0.81
Nyankanga (underground) – Block 5
Proved
–
–
–
–
Probable

0.54
7.44
4.05
0.13
Total
0.54
7.44
4.05
0.13
Star and Comet (underground) Cut 2
Proved
–
–
–
–
Probable
0.19
7.00
1.35
0.04
Total
0.19
7.00
1.35
0.04
Star and Comet (underground) Cut 3
Proved
–
–
–
–
Probable
0.52
7.70
3.97
0.13
Total
0.52
7.70
3.97
0.13
Stockpile (full grade ore)
Proved
–
–
–
–
Probable
0.39
2.63
1.03

0.03
Total
0.39
2.63
1.03
0.03
Stockpile (marginal ore)
Proved
–
–
–
–
Probable
2.14
1.20
2.56
0.08
Total
2.14
1.20
2.56
0.08
Geita
Total
8.54
4.55
38.86
1.25
Estimation
The Mineral Resource models are used as the basis for Ore Reserve estimation. Input parameters for the estimation of the Ore
Reserve include gold 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 for the open pit sources. Pit designs are then done on selected shells and signed off by all relevant parties
to ensure compliance to specifications. Underground designs are completed and evaluated. These designs are incorporated into
the production and treatment scheduling stages to yield ore tonnes and grades. Financial evaluations completed for production and
treatment schedules to check cash flow analysis from the estimated Ore Reserve.
The Ore Reserve for Geita operating, prospective pits and underground mine areas were estimated using updated economical
factors, latest Mineral Resource models, geological, geotechnical, mining engineering and metallurgical parameters.
The environmental, socio-political, legal and regulatory factors were also considered.

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G E I T A
Ore Reserve modifying factors

Geita as at 31 December 2017	**Gold price US$/oz**	**Cut-off grade g/t Au**	**RMF % (based on tonnes)**	**RMF % (based on g/t)**	**MRF % (based on tonnes)**	**MRF % (based on g/t)**	**MCF %**	**MetRF %**
Geita Hill (open pit)	1,100	1.50	95.0	85.0	108.0	92.0	96.0	89.3
Nyankanga (open pit) Cut 7 and 8	1,100	1.40	100.0	100.0	105.0	95.0	96.0	92.0
Nyankanga (underground) Block 5	1,100	3.02	100.0	100.0	95.0	95.0		

96.0
92.0
Star and Comet (underground)
Cut 2
1,100
2.84
100.0
100.0
95.0
95.0
96.0
76.0
Star and Comet (underground)
Cut 3
1,100
2.93
100.0
100.0
95.0
95.0
96.0
84.4
Dilution included in MRF and considered MCF of 96%.
Modifying factors are applied during the production scheduling stage with the aim of closely estimating the tonnes, grade and metal
that would be delivered to the ROM pad (i.e. Ore Reserve). The aim is to be able to fully account for all variance along the chain from
the Mineral Resource model to process plant received and gold produced.
During the year, Geita continued to implement various elements of mine to mill improvements supported with blast movement
tracking technology. The modifying factors considered are based on reconciliation, which is ongoing between Mineral Resource
models, grade control models, mine design perimeters, actual mining and plant feed, specifically on the open pits. Limited historic
data is available for the underground mine and the factors are based on recent drilling results from geology and from similar type
underground deposits and mining methods as suggested by underground planning experts in the group.
For the open pits, the MRF is applied during the production scheduling stage. Dilution included in MRF. These factors are also
applied in the optimisation process, in the software package, to ensure the optimal selected shell reflects the impact of these factors.

Ounces
(millions)
2.00
1.75
1.50
1.25
1.00
0.00
0.00
0.00
0.00
1.25
-0.04
-0.08
-0.64
-0.20
0.24
0.00
1.97
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Geita
year-on-year changes in Ore Reserve
Total (attributable)
Year-on-year the Ore Reserve declined by 91.9% and 58.9% in ore tonnes and metal content respectively. Driven primarily by
changes in the overall economic parameters, specifically in Geita Hill East and depletions. The increased cost of processing raised
the cut-off grades resulting in reclassification of marginal ore stockpiles to mineralised waste.
The underground mines have the dilution and mining recovery losses separately applied during the production scheduling stage.
The MRF is estimated to cater for recovery losses from pillars and a further factor might be applied to cater for these pillars,
depending on if they are mined-out at a later stage or not during detailed pit designs and scheduling process.
The MCF is applied after the production scheduling stage for both open pit and underground in the treatment schedule. The
aim is to be able to fully account for all variance along the chain from the Mineral Resource model to process plant received and
gold produced.

Inferred Mineral Resource in business plan

Geita **as at 31 December 2017**	**Tonnes** **million**	**Grade** **g/t**	**Contained gold** **tonnes**	**Moz**
Geita Hill (open pit)	0.03	0.30	0.01	0.00
Nyankanga (open pit) Cut 8	0.37	1.63	0.60	0.02
Nyankanga (underground) Block 1	0.43	6.84	2.93	0.09
Nyankanga (underground) Block 2	0.77	6.18	4.76	0.15
Nyankanga (underground) Block 3	0.59	6.57	3.90	0.13
Nyankanga (underground) Block 4	1.26	6.77	8.51	0.27
Nyankanga (underground) Block 5	0.36	6.44	2.31	0.07
Star and Comet (underground) Cut 2	0.10	3.29	0.33	0.01
Star and Comet (underground) Cut 3				

0.72
4.85
3.47
0.11
Total
4.63
5.80
26.83
0.86
No Inferred Mineral Resource is included in the final Ore Reserve reporting. However, Inferred Mineral Resource within the Ore Reserve pit shell is included in the business plan. This material forms potential extensions to the current LOM if it is converted to Ore Reserve and infill drilling programmes are planned to upgrade potentially economic areas to Indicated Mineral Resource.
For Nyankanga, the Inferred Mineral Resource is not included in the pit optimisation and therefore does not contribute to the economic assessment of the optimised pit. Although the selected Geita Hill East shells included around 16.2% of Inferred Mineral Resource, the Indicated Mineral Resource component on its own, is still able to yield favourable economic results for the final designed pit. The Inferred Mineral Resource in business plan is present within the final pit shell as exclusive Mineral Resource.
Inferred Mineral Resource is not included in the Star and Comet underground mine design and Ore Reserve estimation process and therefore it does not contribute to the economic assessment of the underground Ore Reserve.

AUSTRALASIA
SECTION 4

AUSTRALASIA
R E G I O N A L O V E R V I E W
1
2
Western
Australia
Darwin
Brisbane
Sydney
Melbourne
Adelaide
Perth
Kalgoorlie
Canberra
1 Sunrise Dam
2 Tropicana (70%)
0
1,000km
Operations
Key statistics
Units
2017
2016
2015
Operational performance
Tonnes treated/milled
Mt
9.4
8.9
8.2
Recovered grade
oz/t
0.061
0.058
0.068
g/t
1.89
1.82
2.12
Gold production (attributable)
000oz
559
520
560
Total cash costs
$/oz
743
793
702
Total production costs
$/oz

991
1,056
919
All-in sustaining costs
(1)
$/oz
1,062
1,067
875
Capital expenditure (attributable)
$m
153
109
78
(1)
Excludes stockpile write-offs
Contribution to regional production
•
Sunrise Dam
•
Tropicana
%
43
57
Contribution to group production
•
Australasia
•
Rest of AngloGold
Ashanti
%
15
85
153
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REGIONAL OVERVIEW

As at 31 December 2017, the total attributable Mineral Resource (inclusive of the Ore Reser ve) for the Australasia region was 11.2Moz (2016: 11.5Moz) and the attributable Ore Reserve was 4.0Moz (2016: 4Moz).

This is equivalent to 5% and 8% of the group's Mineral Resource and Ore Reserve. Production from Australasia was steady at
559koz in 2017, equivalent to 15% of group production.

AngloGold Ashanti operates two mines in Western Australia: Sunrise Dam, which is wholly owned, and Tropicana gold mine, a JV
with Independence Group NL, which holds a 30% stake.

Inclusive Mineral Resource

Australasia as at 31 December 2017 Category	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Measured	33.57	0.97	32.40	1.04
Indicated	127.10	1.98	251.04	8.07
Inferred	35.38	1.84	64.93	2.09
Total	196.05	1.78	348.37	11.20

Exclusive Mineral Resource

Australasia
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million

g/t
tonnes
Moz
Measured
10.53
0.57
6.05
0.19
Indicated
84.41
1.79
151.43
4.87
Inferred
35.38
1.84
64.93
2.09
Total
130.32
1.71
222.41
7.15
Ore Reserve
Australasia
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Proved
23.04
1.14
26.33
0.85
Probable
42.69
2.33
99.60
3.20
Total
65.73
1.92
125.94
4.05
Contribution to group
total Mineral Resource

- 5 Australasia
- 95 Rest of AngloGold Ashanti

%

Contribution to group total Ore Reserve

- 8 Australasia
- 92 Rest of AngloGold Ashanti

%

Australia Mineral Resource – attributable
per operation/project

Tropicana
Sunrise Dam
0
1
2
3
4
5
6
7
5.9
6.0
5.6
5.2
2016
2017
Moz

Australia Ore Reserve – attributable
per operation/project

Tropicana
Sunrise Dam
0.0
0.5
1.0
1.5
2.0
2.5
3.0
1.3
1.2
2.7
2.9
2016
2017
Moz

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S U N R I S E D A M
Introduction
Property description
Sunrise Dam is an underground mine that is wholly owned by AngloGold Ashanti.
Location
Sunrise Dam is approximately 220km north-northeast of Kalgoorlie and 55km south of Laverton in Western Australia.
History
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. By 2014 the mine was wholly an underground mining operation supplemented with stockpile processing.
Legal aspects and tenure
During the year the mining leases was consolidated with Sunrise Dam being now contained within two mining lease covering over 7,800Ha, which are in good standing with the expiry dates in 2038. The Mineral Resource and Ore Reserve for the Sunrise Dam underground mine is contained within M39/1116. The Golden Delicious Mineral Resource is also contained within the M39/1116 mining lease. The lease M39/1116 also contains mine infrastructure, tailings stage facilities and stockpiles. There is a smaller mining lease M39/1117, which hosts water extraction infrastructure.
Mining method
Mining is carried out by underground mining contractors and productivity improvements over the past few years has seen total underground tonnages mined reach a steady state of around 3Mtpa. This has been possible by the use of bulk mechanised sub-level open stoping using stabilising pillars and waste back fill where possible.
Operational infrastructure
All required surface infrastructure is in place including a fully functional camp, plant, power plant and reticulation, offices and road system. The underground mining infrastructure has been undergoing continuous upgrades with an extra power feed to the UG mine completed during 2017 and a major ventilation fan upgrade scheduled for 2018.
Mineral processing
Ore is treated in a conventional gravity and CIL process plant. Installation of a new fine grind and flotation circuit is currently underway with commissioning scheduled for mid 2018. This will improve process recoveries by an average of 6%.
Risks
The complexity of the Sunrise Dam mineralisation means that the largest risk associated with the calculation of the Ore Reserve is linked to the accuracy of the Mineral Resource. Design risk is low as the mining method has been practiced at Sunrise Dam for the past 10 years.
Competent Persons
Sunrise Dam
Category
Competent Person
Professional
organisation
Membership
number
Relevant
experience
Qualification
Mineral Resource

Fraser Clark
MAusIMM
226 390
16 years
BSc Hons (Geology),
Postgraduate Certificate
in Geostatistics
Ore Reserve
Peter Merry
MAusIMM
306 163
15 years
BEng (Mining),
GDE (Mining Engineering)

Daniel portal
to
L
a
v
e
rt
o
n
1
0
1
2km
Golden Delicious
Cleo Pit
Watu portal
WSZ portal
to
K
a
lg
o
o
rli
e
Mine village
Lake
Carey
Cosmo portal
Plant centroid co-ordinates
122°26’18”E, 29°05’35”S
Licences
Mine infrastructure
Prospects
Roads
Mining
Exploration
Exploration application
Pits
Plant
ROM pad
TSF
Waste dumps
Underground access
Golden Delicious
Main
Secondary
Lake Carey
Village
Airfield
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S U N R I S E D A M

Geology

Deposit type

Sunrise Dam is considered to be a mesothermal gold deposit typical of many orebodies found in the Archaean greenstone belts of Western Australia.

Mineralisation style

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. Cosmo, Dolly and Vogue
- Placer-style mineralisation hosted within the fluvial sediments

Mineralisation characteristics

Mineralisation is typically hosted in quartz-carbonate veins and breccias with varying quantities of pyrite and arsenopyrite. Gold occurs as free gold and is also occulded in the sulphides. The gold mineralisation is often associated with strongly altered country rocks proximal to the shear and fracture network that the hydrothermal fluids have passed through.

Sunrise Dam – mineralised lodes

N
S
500m
– 1,000mRL
– 1,500mRL
– 2,000mRL

Exploration

During 2017, the exploration plan was focused on Mineral Resource expansion drilling and Mineral Resource infill drilling. The Mineral Resource expansion drilling focused on drill testing the under explored portions of the mine at depth and along strike to supply additional Mineral Resource into the LOM plan. Significant drill platforms have been established at the southern end of the mine to access the strike and depth extensions of the Vogue orebody. Strategic drill platforms have also been established to facilitate systematic exploration of the middle and northern regions of the property. The exploration drilling focused on the down dip extensions of Vogue and also testing the southern extensions of the Carey Shear Zone. The Carey Shear remains open along strike and down-dip, providing significant upside potential as the exploration proceeds Mineral Resource conversion.

Mineral Resource development drilling took place concurrently and focused on drilling in the southern strike extension of the upper part of the Vogue orebody as well as down dip of the current Ore Reserve. In total the exploration activities added 316koz of gold to the Mineral Resource during the year.

Projects

There are two projects in progress at Sunrise Dam, they are:

- The Recovery Enhancement project, which is looking to evaluate the feasibility of using fine grind and flotation to improve the process plant recovery, currently in construction and due for completion mid year 2018
- The Materials Handling project, which is exploring the options for reducing the long term materials handling costs at the mine by replacing part of the truck and haul operations used to transport material to the process plant

Mineral Resource

Details of average drillhole spacing and type in relation to Mineral Resource classification

Sunrise Dam

Type of drilling

Category

Spacing m (-x-)

Diamond

RC

Blasthole

Channel

Other

Comments

Measured

25 x 25

–

–

–

–

–

–

Indicated

40 x 20, 40 x 40

–
–
–
–
Inferred
100 x 100,
40 x 40
–
–
–
–
Grade/ore control
6 x 8, 9 x 10
–
–
–
–
–
Inclusive Mineral Resource
Sunrise Dam
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Golden Delicious
Measured
0.66
1.47
0.97
0.03
Indicated
2.40
1.24
2.98
0.10
Inferred
0.02
0.89
0.02
0.00
Total
3.09
1.29
3.97
0.13
Sunrise Dam stockpile (open pit)

Measured
10.76
0.95
10.25
0.33
Indicated
–
–
–
–
Inferred
–
–
–
–
Total
10.76
0.95
10.25
0.33
Sunrise Dam underground
Measured
–
–
–
–
Indicated
56.89
2.23
126.85
4.08
Inferred
24.92
1.79
44.62
1.43
Total
81.81
2.10
171.46
5.51
Sunrise Dam stockpile (underground)
Measured
0.13
3.08
0.39
0.01
Indicated
–
–
–

–
Inferred
–
–
–
–
Total
0.13
3.08
0.39
0.01
Sunrise Dam
Total
95.78
1.94
186.07
5.98
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Estimation

Estimation of the underground Mineral Resource uses the geological model boundaries to subdivide all drillhole 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 allows 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 drillhole information is validated for use in the
models and the local geology of the deposit is used to classify the drillhole 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 cutback to an appropriate upper limit for
the population.

Sunrise Dam

Grade tonnage curve surface (metric) (attributable)

Tonnes above
cut-off (millions)
Average grade
above
cut-off (g/t)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
4.0
3.5
3.0
2.5
2.0

1.5
1.0
0.5
0.0
0.25
0.75 1.00
1.50 1.75 2.00 2.25 2.50 2.75 3.00
0.50
1.25
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Sunrise Dam
Grade tonnage curve underground (metric) (attributable)

Tonnes
above cut-off
(millions)
Average grade above
cut-off (g/t
)
250
200
150
100
50
0
14
12
10
8
6
4
2
0
0.5
1.0
2.0
2.5
3.5
4.0
4.5
5.0
6.0
5.5
1.5
3.0
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Exclusive Mineral Resource

Sunrise Dam

Category	Tonnes million	Grade g/t	Contained gold as at 31 December 2017 tonnes	Moz
Measured	0.66	1.47	0.97	0.03
Indicated	51.05	2.02	103.32	3.32
Inferred	24.95	1.79	44.64	1.44
Total	76.66	1.94	148.94	4.79

The exclusive Mineral Resource includes a large portion of the underground Indicated Mineral Resource as the material is of a lower-grade and therefore fails to meet Ore Reserve cut-off grade requirements as well a small amount of Golden Delicious. 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 estimation process.

Mineral Resource below infrastructure

Sunrise Dam Category	Tonnes million	Grade g/t	Contained gold as at 31 December 2017 tonnes	Moz
Measured	–	–	–	–
Indicated	2.38	2.67	6.35	0.20
Inferred	10.63	1.80	19.13	0.61
Total	13.01	1.96	25.48	0.82

The Mineral Resource below infrastructure occurs below the 1,500mRL.

Ounces
(millions)
6.3
6.2
6.1
6.0
5.9
5.8
5.7
5.6
5.5
0.00
0.00
0.00
0.00
0.00
0.32
0.30
-0.24

-0.26
5.88
5.98
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Sunrise Dam
year-on-year changes in Mineral Resource
Total (attributable)
The increase in Mineral Resource from 2016 was largely due to successful exploration, as well a methodology changes in the
estimation approach by calibrating the Mineral Resource estimate to the grade control estimates. The increase was offset by Mineral
Resource depletion and sterilisation of the historic Sunrise Shear mining panels 3 and 4.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
15
10
5
0
-5
-10
-15
-20
Sunrise Dam
Inclusive Mineral Resource sensitivity
As a low grade underground mine Sunrise Dam
is sensitive to changes in gold price.
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S U N R I S E D A M

Ore Reserve

Ore Reserve

Sunrise Dam	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Stockpile (open pit)	Proved	10.76	0.95	10.25	0.33
	Probable	–	–	–	–
	Total	10.76	0.95	10.25	0.33
Underground	Proved	–	–	–	–
	Probable	8.24	3.22	26.50	0.85
	Total	8.24	3.22	26.50	0.85
Stockpile (underground)	Proved	0.13	3.08		

0.39
0.01
Probable
–
–
–
–
Total
0.13
3.08
0.39
0.01
Sunrise Dam
Total
19.12
1.94
37.14
1.19
Estimation
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 on 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.
Ore Reserve modifying factors
Sunrise Dam
as at 31 December 2017
Gold price
AUD/oz
Cut-off
grade
g/t Au
Dilution
%
Dilution
g/t
RMF
% (based
on tonnes)
RMF
% (based
on g/t)
MRF
% (based
on tonnes)
MRF
% (based

on g/t)
MCF
%
MetRF
%
Stockpile (open pit)
1,491
0.75
0.0
0.0
100.0
100.0
100.0
100.0
100.0
85.0
Underground
1,491
2.71
5.0
0.2
14.6
21.1
99.0
99.0
100.0
86.0
Stockpile (underground)
1,491
2.71
5.0
0.2
14.6
21.1
99.0
99.0
100.0
86.0
No significant changes in the modifying factors used in the Ore Reserve as gold price, costs and mining performance was fairly
constant year-on-year.
Inferred Mineral Resource in business plan
Sunrise Dam
as at 31 December 2017
Tonnes
million
Grade
g/t
Contained gold
tonnes Moz
Underground

1.38
3.60
4.97
0.16
Total
1.38
3.60
4.97
0.16
The Inferred Mineral Resource in the business plan includes extensions of all geological domains, including the Carey Shear domain.
Further exploratory drilling during 2018 is planned with the aim of increasing confidence in these areas to bring them into the
Ore Reserve.
Ore Reserve below infrastructure
No Ore Reserve below infrastructure.

Ounces
(millions)
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
0.00
0.00
0.00
0.00
0.00
0.00
0.00
1.19
-0.28
0.12
0.01
1.34
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Sunrise Dam
year-on-year changes in Ore Reserve
Total (attributable)
Year-on-year changes in Ore Reserve are due mainly to depletion with ounces mined exceeding the amount of ounces added to the
Ore Reserve as a result of exploration activities.
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T R O P I C A N A

Introduction

Property description

Tropicana is comprised of a number of open pits that are operated as a JV between AngloGold Ashanti (70%), which manages the operation and Independence Group NL (30%).

Location

Tropicana is located 200km east of Sunrise Dam and 330km east-northeast of Kalgoorlie, Western Australia. Tropicana is the first deposit discovered in this remote portion of the Great Victoria Desert.

History

Open pit mining began during 2012 with first gold production occurring during September 2013. Tropicana will reach the 2Moz produced milestone during the first quarter of 2018.

Legal aspects and tenure

Tropicana has security of tenure for all current exploration licences and the mining lease that covers its future Ore Reserve:

- M39/1096 valid from 11 March 2015 to 10 March 2036 covering a total area of 27,228ha.

The previous 31 mining leases comprising the 27,228ha (including M39/980, M39/981, M39/982 and M39/1052) were conditionally surrendered in favour of the grant of the single mining lease M39/1096 on 11 March 2015 for 21 years with all existing rights and obligations preserved. This process was completed with the co-operation of the Department of Mines and Petroleum.

Mining method

Mining activities are undertaken by Macmahon in an alliance partnership with AngloGold Ashanti. Mining is conventional open cut, drill and blast, followed by truck and excavator operation to develop the deposits (Havana, Havana South, Tropicana and Boston Shaker). The total annual movement of ore and waste is approximately 95Mtpa.

Operational infrastructure

All infrastructure facilities are in place and operational. The processing plant and TSF are operating well, consistent with design specifications. The infrastructure includes, but it is not limited to, a dedicated gas and diesel power station, water supply, processing plant, mine, dewatering infrastructure, tailing dump facility, workshops, camp facilities and airstrips.

Mineral processing

The processing plant comprises crushing, high pressure grinding rolls, one stage grinding and CIL recovery and a capacity of 7.0 to 7.5Mtpa expanding to 7.6 to 8.1Mtpa.

Risks

An independent, external Mineral Resource and Ore Reserve audit was undertaken in September 2017 and found no fatal flaws in process or output.

Competent Persons

Tropicana

Category	**Competent Person**	**Professional organisation**	**Membership number**	**Relevant experience**	**Qualification**
Mineral Resource	Mark Kent				

MAusIMM
203 631
20 years
BSc Hons (Geology), MSc
(Mineral Resource Evaluation)
Ore Reserve
Leonardo Vilela Couto
MAusIMM
308 304
6 years
BSc (Mining Engineering),
MSc (Mineral Economics)

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T R O P I C A N A
Boston Shaker
(BS04)
Tropicana
(TP02)
Havana Sth
(Shell)
Havana Sth
(HS01)
1
0
1
2km
Havana
(HA04)
Boston Shaker
(BS03)
to
Ka
lgo
orl
ie
to the Borefield
Mine village
Mining lease area
Plant centroid co-ordinates
124°32’25”E, 29°14’25”S
Licences
Mine infrastructure
Roads
Settlements
Mining
Exploration
Pits
Plant
ROM pad
Stockpiles
TSF
Waste dumps
Villages
Main
Secondary
Airfield

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Geology

Deposit type

The Tropicana Gold Project area lies east of a north-east – trending magnetic feature, interpreted to be the major tectonic suture between the Yilgarn Craton and the Proterozoic Albany-Fraser Orogen that extends over 700km. The gold deposit is hosted in Archean gneissic metamorphic rocks (ca. 2,640Ma). Cover sequences are generally 10-30m thick and the mineral deposit is not exposed at surface.

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.

Mineralisation style

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 characteristics

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.

NW-SE Geological cross-section through Havana pit

Legend

Regolith

Basalt dyke

Fault/Shear

Amphibolite and granulite dominant gneiss

Garnet bearing amphibolite and granulite

Dominantly monzonitic, dioritic and tonalitic gneiss

Dominantly syenitic, dioritic and tonalitic gneiss

Quartz, grunerite, pyrite and pyrrhotite breccia/chert

Orebody

Section definition boundary

200m

Havana Stage 1

NW

SE
Havana Stage 4 Limit
-200m
-400m
-600m
0m
6762366mN
500m
Elevation

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T R O P I C A N A

Exploration

During 2017 the Tropicana JV brownfields exploration programmes included Mineral Resource development drilling and near mine exploration drilling. Mineral Resource development drilling completed infill drilling at Havana South and Tropicana, as well as extensional drilling at Boston Shaker for assessment of an underground potential. While the near mine exploration programmes looked to explore for potential open pit satellite Mineral Resource, within 60km of the mine. They comprised a mix of advanced and early stage exploration using DD, RC and AC drilling. The programmes are testing prospects such as Madras, New Zebra, Paradise, Angel Eyes and Sanpan, following a comprehensive target generation exercise in early 2016. The results of the 2017 exploration drilling and ongoing targeting work provide a comprehensive pipeline of exploration targets with focus on near mine exploration going forward in 2018.

Projects

The Tropicana JV has approved phase one of the Long Island strategy, effectively increasing production from the mine in the medium term and extending the mine life. The installation of a second ball mill in the Tropicana processing plant grinding circuit has also been approved. The 6MW ball mill will enable the annual throughput rate to be lifted to approximately 8.1Mtpa and through a reduction in grind size, baseline metallurgical recovery will be improved by up to 3%, to approximately 92%. The increased throughput will efficiently match processing capacity to the Long Island mining rate, and effectively bring forward gold production delivering the best production profile for the operation. The improved recovery rate will add approximately 120,000oz to recovered gold over the LOM.

Mineral Resource

Details of average drillhole spacing and type in relation to Mineral Resource classification

Tropicana

		Type of drilling					
Category	**Spacing m (-x-)**	**Diamond**	**RC**	**Blasthole**	**Channel**	**Other**	**Comments**
Measured	12 x 12, 25 x 25	–	–	–	–		

Indicated
50 x 50
–
–
–
–
Inferred
100 x 100
–
–
–
–
Grade/ore control
12 x 12
–
–
–
–
–

Inclusive Mineral Resource

Tropicana	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Boston Shaker Stage 4 – BS04	Measured	–	–	–	–
	Indicated	3.11	2.27	7.05	0.23
	Inferred	–	–	–	–
	Total	3.11	2.27	7.05	0.23
Boston Shaker Stage 3 – BS03	Measured	0.56	1.78	0.99	0.03
	Indicated	3.29	1.94	6.37	0.20
	Inferred	0.00	0.44	0.00	0.00
	Total	3.85	1.91		

7.36
0.24
Havana Stage 3 – HA03
Measured
0.84
2.53
2.13
0.07
Indicated
6.40
1.69
10.82
0.35
Inferred
–
–
–
–
Total
7.24
1.79
12.94
0.42
Havana Stage 4 – HA04
Measured
0.04
1.40
0.06
0.00
Indicated
20.61
1.71
35.33
1.14
Inferred
0.03
0.65
0.02
0.00
Total
20.68
1.71
35.41
1.14
Havana South Stage 1 – HS01
Measured
4.77
1.05
4.99
0.16
Indicated

7.79
1.27
9.91
0.32
Inferred
0.00
0.30
0.00
0.00
Total
12.56
1.19
14.90
0.48
Havana South Shell
Measured
–
–
–
–
Indicated
14.24
1.14
16.31
0.52
Inferred
6.43
1.18
7.55
0.24
Total
20.67
1.15
23.86
0.77
Tropicana Stage 2 – TP02
Measured
1.02
1.89
1.93
0.06
Indicated
5.33
1.93
10.28
0.33
Inferred
–
–
–
–

Total
6.35
1.92
12.20
0.39
Tropicana stockpile (open pit)
Measured
14.80
0.72
10.70
0.34
Indicated
–
–
–
–
Inferred
–
–
–
–
Total
14.80
0.72
10.70
0.34
Tropicana – underground
Measured
–
–
–
–
Indicated
7.04
3.57
25.15
0.81
Inferred
3.97
3.20
12.71
0.41
Total
11.01
3.44
37.87
1.22
Tropicana
Total
100.27
1.62

162.29
5.22
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Tropicana

Grade tonnage curve surface (metric) (attributable)

Tonnes above
cut-off (millions)
Average
grade
above
cut-off (g/t
)
160
140
120
100
80
60
40
20
0
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.1
0.5
0.7
1.1
1.3
1.5
0.3
0.9
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off

Tropicana

Grade tonnage curve underground (metric) (attributable)

Tonnes
above
cut-off
(millions)
Average grade above
cut-off (g/t

)
14
12
10
8
6
4
2
0
5.25
5.00
4.75
4.50
4.00
3.75
3.50
3.25
3.00
0.0
0.5
1.5
1.0
2.0
3.0
4.0
3.5
2.5
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Estimation
All available geological drillhole information is validated for use in the models and the local geology of the deposit is used to classify
the drillhole 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 LUC. Conventional UC estimates the proportion
of material recovered by mining above a cut-off grade, assuming a specified SMU, LUC goes a step further to position the SMU
block within the estimated panel based on the most likely position of the higher grade SMU blocks relative to the lower grades
SMU blocks.
The underground Mineral Resource estimate uses all available drilling targeting the down plunge and along strike extents of the
mineralisation, outside the current open pit limits. The geostatistical method of ordinary kriging is used to estimate the underground
Mineral Resource.
Exclusive Mineral Resource
Tropicana
Category
Tonnes

as at 31 December 2017	million	Grade g/t	Contained gold tonnes	Moz
Measured	9.87	0.51	5.08	0.16
Indicated	33.36	1.44	48.11	1.55
Inferred	10.43	1.95	20.29	0.65
Total	53.66	1.37	73.47	2.36

The exclusive Mineral Resource includes Inferred Mineral Resource at depth in the designed pits and optimised shells, as well as the underground Mineral Resource, which is not yet drilled to a level of confidence to support an Ore Reserve.

Mineral Resource below infrastructure

Tropicana

Category	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2017	**million**	**g/t**	**tonnes**	**Moz**
Measured	–	–	–	–
Indicated	7.04	3.57	25.15	0.81

Inferred
3.97
3.20
12.71
0.41
Total
11.01
3.44
37.87
1.22
The underground Mineral Resource is considered as being below infrastructure as no development has yet taken place or is
currently planned.

Ounces
(millions)
5.7
5.6
5.5
5.4
5.3
5.2
5.1
5.0
4.9
0.00
0.00
0.00
0.00
0.00
0.01
0.11
-0.13
-0.38
5.61
5.22
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Tropicana
year-on-year changes in Mineral Resource
Total (attributable)
There is an overall decrease in Mineral Resource with losses due to depletion and cost increases, and minor additions due to
revised modelling parameters and exploration additions.
The open pit Mineral Resource is sensitive to gold
price changes in Havana South. In other areas,
the pit designs are fixed based on the current
business plan.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces

Grade
10
5
0
-5
-10
-15
-20
-25
Tropicana
Inclusive Mineral Resource sensitivity
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Ore Reserve
Ore Reserve
Tropicana
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Boston Shaker Stage 4 – BS04
Proved
–
–
–
–
Probable
2.35
2.84
6.65
0.21
Total
2.35
2.84
6.65
0.21
Boston Shaker Stage 3 – BS03
Proved
0.42
2.13
0.89
0.03
Probable
2.57
2.34
5.99
0.19
Total
2.98
2.31
6.88
0.22
Havana Stage 3 – HA03
Proved
0.66
3.08

2.02
0.07
Probable
4.76
2.08
9.92
0.32
Total
5.42
2.20
11.94
0.38
Havana Stage 4 – HA04
Proved
0.03
1.78
0.05
0.00
Probable
15.55
2.09
32.50
1.04
Total
15.58
2.09
32.55
1.05
Havana South Stage 1 – HS01
Proved
2.74
1.43
3.91
0.13
Probable
4.82
1.72
8.28
0.27
Total
7.56
1.61
12.19
0.39
Tropicana Stage 2 – TP02
Proved
0.88
2.11
1.85
0.06
Probable

4.41
2.21
9.76
0.31
Total
5.29
2.20
11.61
0.37
Stockpile (open pit)
Proved
7.43
0.94
6.97
0.22
Probable
–
–
–
–
Total
7.43
0.94
6.97
0.22
Tropicana
Total
46.61
1.91
88.80
2.85
Estimation
The Ore Reserve for Tropicana is based on an operating LOM plan and a PFS. For the operating LOM plan, a FS was completed
in 2010, which determined a technically achievable and financially economic mine plan. The pits that make up the operating LOM
plan are Tropicana, Havana, Boston Shaker and Havana South. The PFS is based on an expansion of Havana. All Ore Reserve is
estimated by reporting physicals (volumes, tonnes, grades, material types, etc) against the Mineral Resource model within detailed
staged pit designs. Ore Reserve physicals are then scheduled and put through a financial model for economic evaluation.
Ore Reserve modifying factors
Tropicana
as at 31 December 2017
Gold price
AUD/oz
Cut-off
grade
g/t Au
MCF

%
MetRF
%
1,491
0.70
100.0
90.0
Weighted average recovery: 90.0%. Weighted average cut-off grade: 0.70g/t Au
The metallurgical recovery is based upon historic performance of the process plant to date. This is the only factor applied in the Ore Reserve estimation process. Mining selectivity was accounted for during the Mineral Resource estimation process, which produced a diluted Mineral Resource model. Consequently, no further adjustment was made and 100% mining recovery and no grade dilution were assumed during the Ore Reserve estimation process. The diluted Mineral Resource model is regularly reconciled against operating performance.

Inferred Mineral Resource in business plan
All Mineral Resource categories, including the Inferred Mineral Resource, were included in the business plan but the Inferred was
excluded from the Ore Reserve. It is noted that there is an insignificant percentage of Inferred Mineral Resource (approximately 0.1%
by tonnage) within the pit designs used.
Ore Reserve below infrastructure
No Ore Reserve below infrastructure.
Ounces
(millions)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.00
0.00
0.00
0.00
0.00
2.86
-0.38
0.21
-0.48
0.44
0.41
2.66
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Tropicana
year-on-year changes in Ore Reserve
Total (attributable)
Changes in the Ore Reserve are mainly due to the addition of a large cutback on the Havana and Boston Shaker pits, expansion to
the Havana South pit, and depletion during 2017 operations.
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AMERICAS
SECTION 5
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MINERAL RESOURCE AND ORE RESERVE REPORT
2017

AMERICAS
R E G I O N A L O V E R V I E W
1 Argentina
Cerro Vanguardia (92.5%)
Brazil
2 Serra Grande
3 AGA Mineração
4 Colombia
Gramalote (51%)
La Colosa
Quebradona (93.505%)
1
2
4
3
Operations
Projects
0
400km
Key statistics
Units
2017
2016
2015
Operational performance
(1)
Tonnes treated/milled
Mt
7.5
7.0
7.0
Recovered grade
oz/t
0.102
0.106
0.108
g/t
3.49
3.64
3.71
Gold production (attributable)
000oz
840
820
948
Total cash costs
$/oz
638
578
576
Total production costs

$/oz
973
909
845
All-in sustaining costs
(2)
$/oz
943
875
792
Capital expenditure (attributable)
$m
234
225
196
(1)
Operational performance data for the Americas region is for the continuing operations (excludes CC&V which was sold effective 3 August 2015),
unless otherwise stated
(2)
Excludes stockpile write-offs
Contribution to regional production
•
Cerro Vanguardia
•
AGA Mineração
•
Serra Grande
%
34
50
16
Contribution to group production
•
Americas
•
Rest of AngloGold
Ashanti
%
22
78
175
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REGIONAL OVERVIEW

The Americas region incorporates three mining operations in Brazil and Argentina, and an active greenfield exploration and advanced project development programme in Colombia. As at 31 December 2017, the total attributable Mineral Resource (inclusive of the Ore Reser ve) for the Americas region was 56.9Moz (2016: 58.1Moz) and the attributable Ore Reserve was 5.1Moz (2016: 3.1Moz).

This is equivalent to 27% and 10% of the group's Mineral Resource and Ore Reserve respectively. Combined production for the Americas was 840koz of gold in 2017, equivalent to 22% of group production.

AngloGold Ashanti has three operations in the Americas, the Cerro Vanguardia mine in Argentina (AngloGold Ashanti 92.5% and Formicruz 7.5%), AngloGold Ashanti Córrego do Sítio Mineração operations (referred to as AGA Mineração and includes the Cuiabá, Lamego and Córrego do Sítio (CdS) mines) and Serra Grande, both in Brazil, and three advanced greenfield projects in Colombia.

The projects in Colombia form a significant contribution to AngloGold Ashanti's Mineral Resource with the three projects, La Colosa, Quebradona (AngloGold Ashanti 93.505% and B2Gold 6.495%) and Gramalote (AngloGold Ashanti 51% and B2Gold 49%) contributing 37.1Moz.

Inclusive Mineral Resource

Americas	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2016				
Category	**million**	**g/t**	**tonnes**	**Moz**
Measured	27.47	5.07	139.23	4.48
Indicated	1,064.46	0.99	1,054.24	33.89
Inferred	802.73	0.72	577.57	18.57
Total	1,894.67	0.93		

1,771.04
56.94
Americas
Tonnes
Grade
Contained copper
as at 31 December 2016
Category
million
%Cu
tonnes million pounds million
Measured
–
–
–
–
Indicated
105.25
1.08
1,14
2,508
Inferred
471.60
0.53
2,49
5,492
Total
576.85
0.63
3,63
8,000
Exclusive Mineral Resource
Americas
Tonnes
Grade
Contained gold
as at 31 December 2016
Category
million
g/t
tonnes
Moz
Measured
16.59
6.11
101.42
3.26
Indicated
982.51
0.92
903.33

29.04
Inferred
800.69
0.72
573.94
18.45
Total
1,799.79
0.88
1,578.70
50.76
Contribution to group
total Ore Reserve
•
10 Americas
•
90 Rest of AngloGold Ashanti
%
Contribution to group
total Mineral Resource
•
27 Americas
•
73 Rest of AngloGold Ashanti
%
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Americas Mineral Resource – attributable
per operation/project
Cerro V
anguardia
Gramalote
Serra Grande
Quebradona
AGA Mineração
La Colosa
0
5
10
15
20
25
30
3.1
2.6
3.5
3.1
3.6
3.7
5.6
5.7
13.9
13.6
28.5
28.3
2016
2017
Moz
Americas Ore Reserve – attributable
per operation/project
AGA Mineração
Serra Grande
Cerro

Vanguardia
Gramalote
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.5
0.3
0.9
0.9
0.0

1.8
1.7
2.1
2016
2017
Moz
Ore Reserve
Americas
Tonnes
Grade
Contained gold
as at 31 December 2016
Category
million
g/t
tonnes
Moz
Proved
8.89
2.89
25.67
0.83
Probable
81.83
1.61
131.68
4.23
Total
90.72
1.73
157.35
5.06
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A R G E N T I N A
Cordoba
ARGENTINA
Santa Fe
Buenos Aires
Bahia Blanca
San Julian
Rio Gallegos
Operation
1 Cerro Vanguardia
0
1,000km
1

AngloGold Ashanti has a single operation in Argentina, the Cerro Vanguardia mine, which is a JV with Formicruz (a state company operating in 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 either into a Merrill Crowe plant or onto a heap-leach.

Inclusive Mineral Resource
Argentina
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Measured
7.44
2.20
16.35
0.53
Indicated
18.59
3.13
58.17
1.87
Inferred
2.91
2.63
7.65
0.25
Total
28.94

2.84
82.18
2.64
Exclusive Mineral Resource

Argentina	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2017				
Category	**million**	**g/t**	**tonnes**	**Moz**
Measured	2.72	3.13	8.53	0.27
Indicated	12.80	2.93	37.49	1.21
Inferred	1.12	4.55	5.10	0.16
Total	16.64	3.07	51.11	1.64

Ore Reserve

Argentina	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2017				
Category	**million**	**g/t**	**tonnes**	**Moz**
Proved	4.62	1.69	7.81	0.25
Probable				

5.55
3.69
20.50
0.66
Total
10.17
2.78
28.32
0.91
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C E R R O V A N G U A R D I A

Introduction

Property description

Cerro Vanguardia is a gold-silver mine. A number of open pits and multiple underground mines, located in different parts of the property are mined at the same time. AngloGold Ashanti has a 92.5% stake in Cerro Vanguardia, the company's sole operation in Argentina, with Fomicruz, a state company operating in the province of Santa Cruz, owning the remaining 7.5%. The climate is semi-arid and although snow is not rare, winter is mild and exploration activities are normally possible all year round.

Location

Cerro Vanguardia is located in Santa Cruz province, southern Patagonia, Argentina, approximately 110km north-northwest of the coastal town of Puerto San Julian. Access to the area is by aircraft from Buenos Aires to Comodoro Rivadavia (380km) or Rio Gallegos (510km) and then by road to the mine site.

History

Gold exploration at the site started in late 1980s by the state owned Fomicruz and Minera Mincorp (JV between Anglo American Argentina Holdings Ltd and a local private company Perez Companc). Cerro Vanguardia commenced as an open pit operation in 1998, which was supplemented in 2010 with the start of shallow underground mining to access high-grade material. The heap-leaching operation started in 2012. The mine has been operated by AngloGold Ashanti since 1998.

Legal aspects and tenure

The mining lease encompasses an area of approximately 543km. The licence 402642/CV/97
2
covers the full Ore Reserve and was issued on the 27 December 1996 and expires on the 26 December 2036.

Mining method

Cerro Vanguardia uses conventional open pit mining method with a doubled bench height of 20m and in the underground, longhole stoping. Open pit mining is distributed between multiple operating pits, typically 5 to 10 at any one time, depending on the plant feed requirements. Currently, there are four underground mines which are operated at same time, located at Fortuna, Osvaldo 8, Veronica and Zorro veins. Three more are in development (Liliana, Serena and Cuncuna). The underground workings, which began production in 2010, account for around 30% of total production, a percentage that will increase in the next few years. Low-grade material is stockpiled and processed by heap-leaching.

Operational infrastructure

Most of the infrastructure is located on site. It includes a camp site with capacity for more than 1,000 people, Merrill Crowe plant, heap-leaching facilities, cyanide recycling plant, mine laboratory, maintenance facilities, warehouses and sewage processing plant. Four natural gas power generators fed by a 40km long pipeline provide electricity to the operation. Natural gas is also used for heating. Mine offices facilities are conveniently located in the main mining area. Dewatering supplies water for use both as processing water and camp consumption. Due to the particular features of the mine, and in order to optimise hauling, all pits have local single or multiple waste dumps. The tailings dam is located in and contained by a natural depression.

Mineral processing

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 has a daily capacity of 3,000t and includes a cyanide recovery facility. Production capacity of the 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 around 0.65g/t and 17g/t respectively.

Risks

The Mineral Resource and Ore Reserve is sensitive to gold and silver prices as well as to local exchange rate fluctuations. The low grades from the open pits and difficult hydrogeological and geotechnical conditions for underground are on-going risks that are managed on a day to day basis.

Vanguardia
2 CB7
Luciana
3 CB2
Mónica CB3
Lucy CB1
Rocío CB1
Osvaldo Diez
Potrero
CB1
Gabriela CB3
Loma CB9
Loma CB6
Luciana 1 CB2
Daniela CB1
Osvaldo Diez
CB12
Vanguardia
1 CB4
0
1
2km
to
C
om
od
oro
R
iv
ad
av
ia
/
Serena portal
Fortuna - Level 225
Fortuna - Level 205
Zorro portal
Osvaldo Diez CB8
Level 70
Level 125
Level 85
Liliana Sur
Portal
Liliana Norte
Portal
Verónica portal
R
io
G
al
le

go
s
Cuncuna portal
Lucy CB2
Sandra CB1
Licences
Mine infrastructure
Roads
Mining
Pits
Plant
ROM pad
Stockpiles
Leach pad
TSF
Waste dumps
Underground access
Main
Secondary
Plant centroid co-ordinates
68°15’46”E, 48°23’08”S
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Competent Persons

Cerro Vanguardia Category	**Competent Person**	**Professional organisation**	**Membership number**	**Relevant experience**	**Qualification**
Mineral Resource	Juan Paredes	MAusIMM	227 738	21 years	PhD (Geology)
Ore Reserve	Javier Santillan	MAusIMM	319 366	14 years	BSc (Mining Engineering)

Geology

The Cerro Vanguardia district is located within the southern Deseado Massif in the Santa Cruz Province of Patagonia, Argentina.

The Deseado Massif is an extensive rhyolite province of Middle to Upper Jurassic age. The most important geological feature in the Deseado Massif is an extended plateau formed by pyroclastic, epiclastic and extrusive rocks which were part of a strong explosive volcanic event associated with regional extensional tectonics developed during the Middle – Upper Jurassic and related to the opening of the Atlantic Ocean. The rocks representing this magmatism are termed the Bajo Pobre Formation and Bahia Laura Group. Bajo Pobre Formation comprises andesites, basalts and mafic volcanic agglomerates. The Bahia Laura Group includes both the Chon Aike Formation (ignimbrites, tuffs, volcanic breccias, agglomerates, lavas and domes) and the La Matilde Formation (tuffs and epiclastic volcanics interlayered with ignimbrites).

Deposit type

The Middle – Upper Jurassic ignimbrites and volcanic rocks from Chon Aike formation host the low-sulphidation epithermal 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 the mineralised veins. The Masiva-Lajosa ignimbrite occurs at the top of the sequence while 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).

Mineralisation style

Cerro Vanguardia is located in the core of the 60,000km Deseado Massif, one of the most extensive volcanic complexes in
2
southern Patagonia. 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 orebodies comprise a series of low-sulphidation epithermal vein deposits containing gold and large quantities of silver, produced as a by-product.

Mineralisation characteristics

The mineralisation is concentrated in steeply-dipping quartz veins that cut the flat-lying ignimbrites and volcaniclastic 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, of which 57 veins are currently known to contain economic gold and silver mineralisation.
The veins at Cerro Vanguardia consist mainly of quartz and adularia and contain 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. 40Ar/39Ar dating on adularia from the Osvaldo Diez vein yielded ages of around 153Ma while the age of the thick sequence of ignimbrites hosting the veins has been dated between 166Ma to 150Ma.

Exploration

The 2017 exploration programme comprised 6,477m of RC and 9,142m of DD, as well as 17,592m of trenching and 5,266m of channel sampling. In addition, a number of ground magnetics and Horizontal-Loop Electromagnetic (HLEM) surveys were completed.

Surface exploration targeted previously under explored areas, mainly in the north of the district while drilling concentrated on the identification and development of the Mineral Resource in the central core area and western part of the southern domain.

The RC drilling programme was focused on two different targets. Firstly, testing ground magnetic anomalies (at Fortuna, Laura, Sonia and extensions of Vanguardia 2 veins) and secondly, exploring for new Mineral Resource and defining lateral and downdip extension of mineralisation in under-drilled areas of certain veins (Ariadna, Coirn, El Palo, Gesica, Goyo, Patricia, Patty, Potrero, Teresa, Vanguardia 3W, Vanguardia E, Vernica, Zorro veins).

Small sub-surficial ore-shoots has been identified at Gesica, Potrero and at the intersection of Laura and Sonia veins while a complete new silver-rich Mineral Resource has been developed on the Teresa-El Palo trend.

The DD programme was carried out during two and a half months using two rigs, and drilling 38 holes along 10 veins.

As with the RC, DD was used to define downdip extensions of mineralisation in under-drilled areas of the most important veins of the central productive domain. Drilling was successful in defining new Mineral Resource at Osvaldo Diez 2-8 and Zorro below the current underground development. Additional Mineral Resource were also found on a secondary vein at Luciana 1, but there was only partial success at Vanguardia 3 and Gesica.

A deeper extension of mineralisation was identified and delineated at the Teresa vein using DD while two new areas were discovered when testing the ground magnetic targets at a lateral extension of the Vanguardia 2 and Sonia vein systems.

W
E
100m
150m
200m
50m
0m
100m
Mineralised zone
Masiva Lajosa Ignimbrite
Brechosa Ignimbrite
Granosa Ignimbrite

W-E Geological cross-section of the Teresa vein Cerro Vanguardia

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Trenching and channel sampling was carried out extensively in order to define new drilling targets. During the last portion of 2016 and all of 2017 a total 17,592m were excavated in 132 individual trenches and 5,266m cut in 190 channels. Trenching was focused in four areas: 1) Jani, Laura, Sonia, Vanguardia 2, Vanguardia 3 and Vanguardia 3W veins in the north and north-west of the district; 2) Cuncuna and Sandra veins in the east; 3) Fortuna, Serena Sur, Mara and Carnero veins in the main central part; and 4) Teresa, El Palo, Laguna del Mineral, Ariadna, Patricia and Pardo veins in the southern, silver-rich sector of the district.

New Mineral Resource was discovered in veins at Gesica, Luciana, Osvaldo Diez, Potrero, Sonia, Laura, Teresa and Zorro. The additional Mineral Resource generated was separated into full-grade vein material and low-grade heap-leaching material.

A ground magnetics programme designed to search for shallow blind structures started in August and a total of 29.6km was completed by a contractor in the southern part of the district. Several company-operated HLEM small surveys were carried out over Cuncuna, Fortuna,Gesica, Molino, Vanguardia 2 and Teresa El Palo veins areas and totalled 6.8km^2.

Projects

An exploration project has been initiated focusing on the generation of new Mineral Resource to replace mining depletion. This will be achieved through the identification and delineation of high grade orebodies at depth and along strike of know mineralisation and generative exploration work using geophysic and geochemestry looking for new ore shoots in the veins of the central, north and south.

Mineral Resource

Details of average drillhole 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 10
–
–
–
Indicated
40 x 40
–

–
–
Inferred
80 x 80
–
–
–
Grade/ore control
6 x 10, 12 x 5
–
–
–
–
Inclusive Mineral Resource
Cerro Vanguardia
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Vein (open pit)
Measured
1.67
6.08
10.13
0.33
Indicated
7.35
4.95
36.42
1.17
Inferred
1.16
4.52
5.27
0.17
Total
10.19
5.09
51.82
1.67
In situ heap leach stockwork material
Measured
1.81
0.67
1.21
0.04

Indicated
9.39
0.54
5.10
0.16
Inferred
1.50
0.49
0.73
0.02
Total
12.69
0.55
7.04
0.23
Heap leach stockpiles
Measured
3.64
0.59
2.14
0.07
Indicated
–
–
–
–
Inferred
–
–
–
–
Total
3.64
0.59
2.14
0.07
Vein (underground)
Measured
0.32
8.97
2.87
0.09
Indicated
1.85
9.00
16.65
0.54
Inferred
0.25
6.62
1.65

0.05
Total
2.42
8.75
21.17
0.68
Cerro Vanguardia
Total
28.94
2.84
82.18
2.64
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Cerro Vanguardia
Grade tonnage curve surface (metric) (attributable)

Tonnes above
cut-off (millions)
Average
grade
above
cut-off (g/t)
12
10
8
6
4
2
0
18
16
14
12
10
8
6
4
0
1
4
5
3
6
8
9
10
2
7
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Cerro Vanguardia
Grade tonnage curve underground (metric) (attributable)

Tonnes
above
cut-off
(millions)
Average grade above
cut-off (g/t
)
3.0
2.5
2.0

1.5
1.0
0.5
0
20
18
16
14
12
10
8
0
1
3
4
5
7
8
9
10
2
6
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Inclusive Mineral Resource by-product: silver (Ag)
Cerro Vanguardia
as at 31 December 2017

Category	**Tonnes million**	**Grade g/t**	**Contained silver tonnes**	**Moz**
Measured	7.44	58.43	435	13.97
Indicated	18.59	77.83	1,447	46.52
Inferred	2.91	73.99	215	6.92

Total	28.94	72.46	2,097	67.42

Silver is produced as a by-product with the ratio of silver to gold ranging from 10g/t to 20g/t of silver per 1g/t of gold.

Estimation

The mineralisation boundaries for each geological entity (veins, stockwork and wall rock) are defined from the detailed logging of all geological drillholes. This data is validated and the information used to create a 3D model. This model is subsequently overlain with a 5m x 25m x 5m block model. Volumetric measurements of the deposit are then determined using relevant block dimensions.

Ordinary kriging is used to perform 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 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.

Exclusive Mineral Resource

Cerro Vanguardia

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	2.72	3.13	8.53	0.27
Indicated	12.80	2.93	37.49	1.21
Inferred	1.12	4.55	5.10	0.16
Total	16.64	3.07	51.11	1.64

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.

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 not be converted in the near term to Ore Reserve and is therefore listed as exclusive Mineral Resource.

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Year-on-year changes in Mineral Resource are mainly related to depletion.
The Mineral Resource is sensitive to changes in gold price. A great deal of low-grade material is present in the deposit which is reflected in the large tonnage increase and grade decrease at elevated gold prices.

Ounces
(millions)
3.5
3.0
2.5
2.0
1.5
0.03
0.02
0.00
0.00
0.00
0.00
-0.34
-0.09
-0.03
3.06
2.64
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017

Cerro Vanguardia
year-on-year changes in Mineral Resource

Total (attributable)
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade

30
25
20
15
10
5
0
-5
-10
-15
-20
Cerro Vanguardia
Inclusive Mineral Resource sensitivity
Mineral Resource below infrastructure
Cerro Vanguardia

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	–	–	–	–
Indicated	–	–	–	–
Inferred	0.23	6.76	1.53	0.05
Total	0.23	6.76	1.53	0.05

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Ore Reserve

Ore Reserve

Cerro Vanguardia	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Vein (open pit)	Proved	0.57	6.62	3.80	0.12
	Probable	1.82	5.37	9.76	0.31
	Total	2.39	5.67	13.56	0.44
In situ heap leach stockwork material	Proved	0.24	0.80	0.20	0.01
	Probable	2.51	0.70	1.75	0.06
	Total	2.76	0.70	1.94	0.06
Heap leach stockpile	Proved	3.64	0.59	2.14	0.07
	Probable				

–
–
–
–
Total
3.64
0.59
2.14
0.07
Vein (underground)
Proved
0.16
10.74
1.67
0.05
Probable
1.22
7.35
9.00
0.29
Total
1.38
7.73
10.67
0.34
Cerro Vanguardia
Total
10.17
2.78
28.32
0.91
Ore Reserve by-product: silver (Ag)
Cerro Vanguardia
Category
Tonnes
million
Grade
g/t
Contained silver
as at 31 December 2017
tonnes
Moz
Proved
4.62
56.77
262
8.43
Probable
5.55
74.98
416

13.39
Total
10.17
66.72
678
21.81
Estimation
The appropriate Mineral Resource models are used as the basis for estimating 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 20g/t to 30g/t of silver per 1g/t of gold.
Ore Reserve depletion includes material that comes from the operational dilution, which constitutes an additional low grade tonnage
that is mined as part of the ongoing operation. Mineral Resource is estimated *in situ* and thus does not include this dilution.
Ore Reserve modifying factors
Cerro Vanguardia
as at 31 December 2017
Gold price
ARS/oz
Cut-off grade
g/t Au
Dilution
%
MRF
% (based on
tonnes)
MRF
% (based on
g/t)
MCF
%
MetRF
%
Vein (open pit)
17,898
2.84
45.0
97.0
96.0
93.0
95.7
In situ heap leach
(stockwork material)
17,898

0.46
–
97.0
96.0
93.0
64.4
Heap leach stockpiles
17,898
0.46
–
97.0
96.0
93.0
64.4
Vein (underground)
17,898
5.00
45.0
97.0
96.0
93.0
95.7
A detailed reconciliation process compares estimated versus mined ore, including comparison between predicted grades and
tonnes produced in the processing plant. These comparisons are used in determining which modifying factors to use in the Ore
Reserve calculations.
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Inferred Mineral Resource in business plan

Cerro Vanguardia as at 31 December 2017	**Tonnes million**	**Grade g/t**	**Contained gold tonnes**	**Moz**
Vein (open pit)	0.07	2.65	0.20	0.01
In situ heap leach stockwork material	0.09	0.46	0.04	0.00
Vein (underground)	0.00	4.66	0.01	0.00
Total	0.16	1.51	0.25	0.01

The Inferred 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. It is considered in the business plan in order to delineate the final designs of the open pits, improving efficiency in Mineral Resource utilisation.
In the current business plan, around 5% of the open pits and 16% of the underground designs contain Inferred Mineral Resource.
The Inferred Mineral Resource is excluded for Ore Reserve reporting.
Slight decrease in the Ore Reserve year on year, with the depletion being largely offset by improvements in the estimation methodology and modelling.
Ounces
(millions)
1.2
1.0
0.8
0.6
0.4
0.2

0.0
0.00
0.00
0.00
0.00
0.00
-0.34
-0.31
-0.07
-0.03
0.71
0.91
0.95
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Cerro Vanguardia
year-on-year changes in Ore Reserve
Total (attributable)
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BRAZIL
Recife
Salvador
Belo Horizonte
Crixas
Manaus
Belem
Rio de Janeiro
Sao Paulo
Brasilia
Operations
1 Serra Grande
2 AGA Mineração
1
2
0
1,000km

AngloGold Ashanti's operations in Brazil comprise AngloGold Ashanti Córrego do Sítio Mineração (AGA Mineração) in the Quadrilátero Ferrífero, Minas Gerais state 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.

Inclusive Mineral Resource

Brazil	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2017				
Category	**million**	**g/t**	**tonnes**	**Moz**
Measured	20.04	6.13	122.87	3.95
Indicated	24.21			

5.85
141.75
4.56
Inferred
46.50
5.84
271.47
8.73
Total
90.75
5.91
536.09
17.24
Exclusive Mineral Resource
Brazil
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Measured
13.87
6.70
92.89
2.99
Indicated
11.69
5.66
66.16
2.13
Inferred
46.25
5.85
270.39
8.69
Total
71.80
5.98
429.44
13.81
Ore Reserve
Brazil
Tonnes
Grade
Contained gold
as at 31 December 2017
Category

million
g/t
tonnes
Moz
Proved
4.28
4.17
17.86
0.57
Probable
12.56
4.50
56.50
1.82
Total
16.84
4.42
74.36
2.39

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Introduction

Property description

AGA Mineração encompasses mining operations at Cuiabá, Lamego, Córrego do Sítio and the project, Nova Lima Sul.

Location

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, in the municipalities of Nova Lima, Sabará and Santa Bárbara respectively.

Legal aspects and tenure

Under the current Brazilian mining code and pertinent complementary legislation, mining concessions and mining "manifests" are valid up to the depletion of the Ore Reserve and Mineral Resource, provided that all obligations and the required periodic reporting to the federal government are met.

Mineral Resource

Inclusive Mineral Resource

AGA Mineração

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	13.52	7.13	96.47	3.10
Indicated	18.13	6.39	115.87	3.73
Inferred	31.88	6.58	209.84	6.75
Total	63.53	6.65	422.18	13.57

Inclusive Mineral Resource by-product: sulphur (S)

AGA Mineração

as at 31 December 2017

Category	**Tonnes million**	**Grade %S**	**Contained sulphur tonnes million**	**pounds million**
Measured	9.93	5.6	0.56	1,234
Indicated	8.35	6.4	0.53	1,171
Inferred	12.18	5.8	0.70	1,551
Total	30.46	5.9	1.79	3,956

Sulphur is a by-product of the Cuiabá and Lamego mining operations (71% of the sulphur is from Cuiabá and 29% from Lamego).

0
20km
10
N
Cuibá complex
1 Cuiabá
2 Lamego
3
Queiroz plant refinery
Operations
AGA Mineração
Córrego do Sítio complex
4 CdS I
5 CdS II
Nova Lima Sul
6 Raposos
Sabará
Nova Lima
Belo Horizonte
Caeté
Barão de

Cocais
Rio
Acima
1
4
5
2
6
3
Santa Barbara
Gandarela
Descoberto

Ounces
(millions)
15.0
14.5
14.0
13.5
13.0
0.00
0.00
0.00
0.00
-0.84
-0.04
-0.26
-0.49
1.26
13.94
13.57
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
AGA Mineração
year-on-year changes in Mineral Resource
Total (attributable)
Overall decrease in the Mineral Resource, with decreases as a result of depletion and the constraining of the open pits, balanced by
exploration additions at Cuiabá below Level 25 on Fonte Grande Sul and below Level 8.1 on the Carruagem orebody at Lamego.
Ore Reserve
Ore Reserve
AGA Mineração
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Proved
2.59

5.09
13.18
0.42
Probable
10.79
4.72
50.90
1.64
Total
13.38
4.79
64.08
2.06
Exclusive Mineral Resource
AGA Mineração
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Measured
10.97
7.46
81.81
2.63
Indicated
8.95
6.06
54.23
1.74
Inferred
31.88
6.58
209.84
6.75
Total
51.80
6.68
345.89
11.12
Mineral Resource below infrastructure
AGA Mineração
Category
Tonnes
million
Grade
g/t

Contained gold
as at 31 December 2017
tonnes
Moz
Measured
0.04
6.20
0.28
0.01
Indicated
6.83
7.48
51.07
1.64
Inferred
24.52
7.17
175.73
5.65
Total
31.39
7.23
227.07
7.30
The Mineral Resource below infrastructure is made up of 36% from Córrego do Sítio, 48% from Cuiabá, 8% from Lamego and 8%
from Nova Lima Sul.
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A G A M I N E R A Ç Ã O
Ounces
(millions)
2.5
2.0
1.5
1.0
0.5
0
0.00
0.00
0.01
0.00
0.00
0.00
-0.47
-0.06
0.68
0.17
2.06
1.72
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
AGA Mineração
year-on-year changes in Ore Reserve
Total (attributable)
Year-on-year increase in the Ore Reserve, driven by the inclusion of transitional and sulphide material in the Córrego do Sítio
Rosalino open pit as well as Mineral Resource conversion.
Ore Reserve by-product: sulphur (S)
AGA Mineração
Category
Tonnes
million
Grade
%S
Contained sulphur

as at 31 December 2017
tonnes million pounds million
Proved
2.17
4.3
0.09
204
Probable
6.79
4.1
0.28
611
Total
8.96
4.1
0.37
815
Sulphur is a by-product of the Cuiabá and Lamego mining operations (90% of the sulphur is from Cuiabá and 10% from Lamego).
Ore Reserve below infrastructure
AGA Mineração
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Proved
0.00
6.11
0.02
0.00
Probable
3.52
5.44
19.18
0.62
Total
3.53
5.44
19.20
0.62
The Ore Reserve below infrastructure is made up of 84% from Cuiabá and 16% from Lamego.

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Australasia
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A G A M I N E R A Ç Ã O – C Ó R R E G O D O S Í T I O

Introduction

Property description

Córrego do Sítio (CdS) is wholly owned by AngloGold Ashanti Córrego do Sítio Mineração (AGACSM). The CdS gold complex has been in operation since 1989 and consists of two operations: an oxide open pit mine (ore treated by a 600ktpa heap-leach operation producing about 25kozpa) and two sulphide underground mines (ore treated at a 700ktpa pressure leaching sulphide plant producing about 80kozpa). The haulage distance from the main underground mine, CdS I, to the metallurgical plant is around 15km. The annual production capacity of CdS is 1.2Mt. CdS I underground utilises the sub-level stoping mining method. Since 2014, the mining sequence at CdS I underground has been changing from bottom-up to top-down in order to provide earlier access to high grade stoping areas. Gold production from the CdS operations is transported by road to the company’s own refinery at the Queiroz plant, about 140km away.

Location

CdS is located in the municipality of Santa Barbara, 100km east of the city of Belo Horizonte, the capital of Minas Gerais state.

History

Exploration across the CdS area by AngloGold Ashanti began in the 1980s. A FS for the oxide Ore Reserve, to be mined by open pit and treated in a heap-leach plant, was approved in 1987. From 2002, development of underground exploration drifts began, and a FS for the sulphide Ore Reserve, to be mined underground and treated in a sulphide plant, was concluded in 2010. Implementation followed from 2010, and the ramp-up was concluded in 2012. In 2011, there were major renovations to the structure of São Bento metallurgical plant which were finished in 2012. In 2013, the crushing circuit was improved in order to optimise the throughput.

Legal aspects and tenure

CdS I includes one underground operation and a number of individual open pit operations and is hosted by three geographically contiguous concessions granted by DNPM (the Brazilian National Department for the Mineral Production, the licensing authority) to AGA Mineração, as follows:

- DNPM Mining Concession 930.181/2008 with 2,977.83ha in area
- DNPM Mining Concession 833.472/2003 with 7.57ha in area
- The DNPM Mining Concession 830.129/1982 with 460.13ha in area
- CdS II includes one active underground operation (formerly known as the São Bento Mine) and hosted by two geographically contiguous concessions granted by DNPM to AGA Mineração
- The DNPM Mining Concession 930.556/2000 with 2,015.54ha in area
- The DNPM Mining Concession 830.943/1979 with 556.37ha in area

All five CdS mining concessions are in good standing.

DNPM Mining Concession 830.943/1979 hosts the deepest portion of the former São Bento mine and has been granted a temporary mining suspension. New documentation, based on a revised mine plan has to be submitted to the DNPM, if and when AGA Mineração decides to resume the underground operation on this concession area. A new Brazilian mining code is currently under discussion, however, it is not anticipated to change the company’s rights, which are already established.

Mining method

The underground mining method for CdS is sub-level stoping. Each panel consists of three levels with secondary development drives being some 300m along strike in the north-east/south-west direction and cross-cuts, 300m in a south-west direction. The stopes are 15m in height. The mining sequence is bottom-up, though all of CdS I is being converted to a top-down sequences. 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 stope drilling is executed via fan drilling in ascending and descending directions. The loading and hauling operations are performed by 8t front-end loaders and 30t articulated trucks, at an approximate rate of 1,500tpd.

Operational infrastructure

CdS infrastructure consists of two treatment plants, namely, the sulphides plant for the underground mines at CdS II and the heap-leach plant for the oxide ore mined by open pit mine at CdS I, as well as a tailings dam for the sulphide plant, the neutralised tailings deposit for the oxide material and numerous waste dumps for the open pit mines at CdS I.

Ancillary facilities comprise a water treatment facility, effluents treatment facilities, equipment workshops, laboratory, warehouses, explosives and accessories magazines, fuel stations, electric substations as well as offices, medical clinic, cafeteria, dressing rooms, bathrooms, storerooms, garage, fuel stations, explosives magazines, a Centre of Environmental Studies, nursery and other facilities required to operate the mine.

The mine power is supplied from the state grid. Water is primarily sourced from recycling of the underground mine water and supplementary water catchment wells.

Good communication infrastructure is available in the area.

Mineral processing

There are two metallurgical plants in CdS: the heap-leach plant for the oxide ore and the sulphide plant.

The sulphide process consists of crushing, grinding and gravity concentration, flotation, thickening, acidulation, pressure oxidation (POX autoclave), counter current decantation, CIL extraction, elution, neutralisation, electro-winning and tailings disposal. The plant and POX circuit have a capacity of 600ktpa.

The heap-leaching process consist of crushing, agglomeration, stacking, leaching, adsorption, elution and electro-winning.

Risks

The major risk to the operation is the lack of Ore Reserve flexibility. This risk is controlled and mitigated by integrated planning with the exploration team and monitoring the execution of the plan.

Competent Persons

AGA Mineração – Córrego do Sítio

Category	**Competent Person**	**Professional organisation**	**Membership number**	**Relevant experience**	**Qualification**
Mineral Resource	Rodrigo Martins	MAusIMM	311 050	13 years	MSc (Geology), BSc (Geology)
Ore Reserve	Cristóvão Tefilo dos Santos	MAusIMM	312 542	9 years	Graduate Dip (Mining)

Geology

The CdS gold deposit is located in the eastern part of the Rio das Velhas Archean greenstone belt, in the Quadriltero Ferrfero region,
at the southern margin of the So Francisco Craton in Brazil.

Deposit type

CdS is an orogenic gold deposit hosted in intensely deformed clastic and volcaniclastic, carbonaceous schists and metagraywackes in an approximately 30km north-east/south-west striking shear zone.

Hydrothermal alteration phases associated with the mineralisation are dominated by sericite and carbonate.

Mineralisation style

CdS is located in the eastern part of the lower to middle greenschist facies archean Rio das Velhas greenstone belt. The CdS I, II and III 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 Jambeiro (CdS III areas) in the north. CdS II Area is the north portion of the Córrego do Sítio gold trend. The main gold targets and deposits are distributed over three trends, namely the CdS trend, the Donana Trend and the Cristina Trend. At CdS I, main ore-bodies are Rosalino, Cachorro Bravo, Laranjeiras and Carvoaria, which constitute the current production sources and the most significant mineralisations at Mine I.

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Onca
Mutuca
Cristina
Rosalino
João Burro
Carvoaria Sul
Candeias
Santa Barbara
Mine
Campo Grande
0
1
2
3km
Brumal
Barão de Cocais
Santa Barbara
CdS III
CdS II
CdS I
Barra Feliz
to Catas Altas
to Itabira
São Bento
(non operational)
Mining Lease Area
Plant centroid co-ordinates
43°31’11”W, 20°0’58”S
Mining
Mining application
Exploration
Exploration application
Settlements
Roads
Pits
Plant
Leach pad
TSF
Waste dumps
Underground access
Main
Secondary
Villages
Towns
Mine infrastructure
Licences

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At CdS II, the main orebodies are São Bento, Pinta Bem (both BIF hosted) and Sangue de Boi (metapellite hosted). At CdS III, Anomalia I and II represent the orebodies with highest level of information and potential so far (for formal declaration purposes, CdS III deposits are incorporated as CdS II). CdS mineralisation occurs in a greenstone belt geological environment where the gold content is associated to quartz and sulphides (mainly very fine, acicular arsenopyrite crystals) in a structurally controlled corridor of approximately 20km in strike length and about 500m vertical extent, developed under compressional tectonic settings.

Mineralisation characteristics

The CdS deposits consist of narrow north-east/south-west elongated and folded lenses of mineralisation, plan-parallel to main regional deformational structure S2, dipping 60° to 70° south-east and plunging 20° to 30° north-east. The orebodies present themselves are consistently folded, boudinaged and locally interrupted by younger structures. CdS is an orogenic type deposit and comprises many hydrothermal lodes with quartz veins and low sulphide content disseminated in the wall rocks. In general, the mineralisation consists of sericitic zones and quartz veinlets with both metapellites and BIF as host-rocks. The sedimentary sequence, and consequently the mineralised deposits, are cross-cut by a swarm of basic dykes of uncertain age, with a general orientation north-north-east/south-south-west and dipping to south-east, with thickness varying from 20cm up to 10-20m.

The gold occurs as native gold in smoky-quartz veins and as microscopic or sub-microscopic inclusions in arsenopyrite (the main mineralisation style) and sometimes in an iron-antinomy sulphide and berthierite ($FeSb_2S_4$). Other typical sulphide minerals are pyrrhotite, pyrite, stibnite, sphalerite and chalcopyrite.

Longitudinal section through the Córrego do Sítio orebody

Exploration

During the period July 2016 to June 2017, 42,346m were drilled along the CdS trends with the exploration work focused on:

- Supporting the production plan of the open pit and underground mines (mainly CdS I) through Mineral Resource conversion thereby reducing the LOM risks
- Assessing high grade mineralisation targets
- Evaluating the potential of near-mine areas and the region

Mineral Resource drilling at the CdS business unit was undertaken in compliance with the company’s operational excellence plan.

The exploration goal was to increase LOM confidence levels by performing sufficient drilling to convert Mineral Resource with the aim of keeping the production plan free of conceptual material for five years and by having 240 vertical metres of material in at

least Indicated Mineral Resource classification ahead of development. Based on that, exploration drilling programme comprised
significant surface and underground drilling campaigns.
The surface campaign was focused on Mine I Mineral Resource addition at depth, testing the down-dip continuity of Carvoaria,
Cachorro Bravo and Laranjeiras orebodies for long-term underground operations. The deep drilling campaign at Mine I intercepted
good thickness and high grade ore continuity down plunge at Cachorro Bravo and Carvoaria. This improved knowledge and
confidence of the mineralisation extension at significant depth below current ore models. Considering the underground production
plan for the next three years of the sulphide areas at CdS I, the underground drilling concentrated on Mineral Resource conversion
on a 50m x 25m drilling grid for the three main orebodies: Cachorro Bravo, Laranjeiras and Carvoaria. The results confirmed the
mineralisation along the structures, improving the model quality and spatial reliability. Mineral Resource addition from underground
also occurred as a result of the drilling of secondary lenses. Other exploratory works carried out included underground geological
mapping and long-term geological and grade model updates.

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A G A M I N E R A Ç Ã O – C Ó R R E G O D O S Í T I O

Mineral Resource

Details of average drillhole spacing and type in relation to Mineral Resource classification

AGA Mineração – Corregó do Sítio
Type of drilling
Category
Spacing m (-x-)
Diamond
RC
Blasthole
Channel
Other
Comments
Measured
25 x 25
–
–
–
–
Indicated
25 x 40, 30 x 25,
50 x 30, 50 x 50
–
–
–
–
Inferred
40 x 100,
100 x 50,
100 x 100,
200 x 200
–
–
–
Grade/ore control
3 x 3, 5 x 5
–
–
–

Inclusive Mineral Resource

AGA Mineração – Córrego do Sítio
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes

Moz
CdS I (sulphide) Rosalino underground
Measured
–
–
–
–
Indicated
0.47
4.34
2.04
0.07
Inferred
3.01
3.77
11.34
0.36
Total
3.48
3.84
13.38
0.43
CdS I (sulphide) secondary underground
Measured
–
–
–
–
Indicated
0.10
6.31
0.65
0.02
Inferred
0.69
5.05
3.49
0.11
Total
0.79
5.22
4.14
0.13
CdS I (sulphide) Cachorro Bravo
Measured
1.34
6.34
8.52
0.27
underground
Indicated

0.53
6.52
3.44
0.11
Inferred
0.55
6.21
3.41
0.11
Total
2.42
6.35
15.38
0.49
CdS I (sulphide) Laranjeiras underground
Measured
1.35
5.72
7.70
0.25
Indicated
1.05
5.87
6.16
0.20
Inferred
1.22
7.04
8.60
0.28
Total
3.62
6.21
22.46
0.72
CdS I (sulphide) Carvoaria underground
Measured
0.33
9.38
3.13
0.10
Indicated
0.67
6.92
4.67
0.15
Inferred
1.00
8.33
8.35
0.27

Total
2.01
8.03
16.14
0.52
CdS I (transitional) Rosalino underground
Measured
–
–
–
–
Indicated
0.01
3.79
0.03
0.00
Inferred
0.06
4.52
0.28
0.01
Total
0.07
4.43
0.32
0.01
CdS I (sulphide) Rosalino open pit
Measured
–
–
–
–
Indicated
2.10
4.01
8.43
0.27
Inferred
0.26
3.85
0.98
0.03
Total
2.36
4.00
9.41
0.30
CdS I (oxide) Rosalino open pit
Measured
0.12
1.97

0.24
0.01
Indicated
0.91
2.91
2.65
0.09
Inferred
0.24
3.09
0.74
0.02
Total
1.27
2.85
3.64
0.12

AGA Mineração – Córrego do Sítio

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
CdS I (transitional) Rosalino open pit				
Measured	0.03	2.05	0.06	0.00
Indicated	0.58	2.77	1.60	0.05
Inferred	0.17	2.51	0.43	0.01
Total	0.78	2.69	2.09	0.07
CdS I (oxide) secondary open pit				
Measured	0.15	5.52	0.84	0.03
Indicated	0.24	5.73	1.40	0.04
Inferred	0.43	3.64	1.56	0.05
Total	0.82	4.61	3.80	

0.12
CdS I (transitional)
Measured
0.02
8.16
0.20
0.01
Indicated
0.27
7.74
2.09
0.07
Inferred
0.27
6.29
1.72
0.06
Total
0.57
7.06
4.01
0.13
CdS II (sulphide) Sangue de Boi
Measured
0.05
9.67
0.52
0.02
underground
Indicated
0.44
7.76
3.40
0.11
Inferred
1.65
6.54
10.81
0.35
Total
2.14
6.87
14.73
0.47
CdS II (sulphide) São Bento Mine
Measured
–
–
–
–
underground

Indicated
0.45
7.95
3.58
0.12
Inferred
5.14
6.03
30.98
1.00
Total
5.59
6.18
34.56
1.11
CdS II (sulphide) Pinta Bem underground
Measured
–
–
–
–
Indicated
0.38
3.04
1.17
0.04
Inferred
0.58
3.26
1.90
0.06
Total
0.97
3.17
3.07
0.10
CdS II (sulphide) secondary underground
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
0.92
6.79
6.26

0.20
Total
0.92
6.79
6.26
0.20
CdS II (oxide)
Measured
–
–
–
–
Indicated
1.05
3.89
4.07
0.13
Inferred
1.07
3.16
3.39
0.11
Total
2.12
3.52
7.46
0.24
CdS II (transitional)
Measured
–
–
–
–
Indicated
0.12
3.71
0.43
0.01
Inferred
0.17
3.79
0.64
0.02
Total
0.29
3.76
1.08
0.03
AGA Mineração – Córrego do Sítio
Total
30.23

5.36
161.93
5.21
Estimation
Ordinary kriging is used to estimate gold for all the targets and for sulphur and density at selected targets. When the sample
population is not sufficient to estimate the density, the mean and/or a reference value is used. Only gold is preferentially estimated
by lenses. For some targets the dykes divide sample populations and domains are estimated separately with different variogram and
search parameters. The Mineral Resource classification is performed using conditional simulation or drill spacing.

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Exclusive Mineral Resource

AGA Mineração – Córrego do Sítio				
Category	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2017	**million**	**g/t**	**tonnes**	**Moz**
Measured	3.05	6.32	19.29	0.62
Indicated	6.10	5.01	30.60	0.98
Inferred	17.44	5.44	94.90	3.05
Total	26.60	5.44	144.79	4.66

Mineral Resource below infrastructure

AGA Mineração – Córrego do Sítio				
Category	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2017	**million**	**g/t**	**tonnes**	**Moz**
Measured	0.02	8.16	0.20	0.01
Indicated				

2.06
5.53
11.40
0.37
Inferred
12.51
5.60
70.04
2.25
Total
14.59
5.59
81.64
2.62
Ounces (millions)
6.5
6.0
5.5
5.0
4.5
0.00
0.00
0.00
0.00
0.00
-0.14
0.10
-0.58
-0.04
5.86
5.21
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Córrego do Sítio
year-on-year changes in Mineral Resource
Total (attributable)
The Mineral Resource reduced because of mining depletion and methodology. There was a reduction in the oxide ounces due to the
use of pit constraints for some of the targets which were not pit constrained in 2016, resulting in their exclusion or partial exclusion

from the 2017 declaration. The reduction in sulphide ounces was related mainly to the geological model review, the largest impact
being the review of Rosalino orebody, which was partially offset by exploration and Mineral Resource conversions at Carvoaria
and Laranjeiras.
Córrego do Sítio
Grade tonnage curve surface (metric) (attributable)
T
onnes above cut-off (millions)
A
verage grade above cut-off (g/t
)
10
8
6
4
2
0
14
12
10
8
6
4
2
0
0
1
4
5
3
6
8
9
10
2
7
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Córrego do Sítio
Grade tonnage curve underground (metric) (attributable)
T
onnes above cut-off (millions)
A
verage grade above cut-off (g/t
)
30
26
22
18

14
10
6
2
14
12
10
8
6
4
0
1
3
4
5
7
8
9
10
2
6
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
200
MINERAL RESOURCE AND ORE RESERVE REPORT
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CdS is not sensitive to changes in gold price.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
10
7.5
5.0
2.5
0
-2.5
-5.0
-7.5
-10
-12.5

Córrego do Sítio

Inclusive Mineral Resource sensitivity

AMERICAS
CONTINUED
AGA MINERAÇÃO – CÓRREGO DO SÍTIO

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.

Ore Reserve

Ore Reserve

AGA Mineração – Córrego do Sítio	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
CdS I (sulphide) Cachorro Bravo underground	Proved	0.06	4.06	0.22	0.01
	Probable	0.11	4.75	0.50	0.02
	Total	0.16	4.51	0.73	0.02
CdS I (sulphide) Laranjeiras underground	Proved	0.07	4.33	0.29	0.01
	Probable	0.20	5.05	1.02	0.03
	Total	0.27			

4.87
1.31
0.04
CdS I (sulphide) Carvoaria underground
Proved
0.11
6.29
0.66
0.02
Probable
0.42
4.33
1.84
0.06
Total
0.53
4.72
2.50
0.08
CdS I (sulphide) Rosalino open pit
Proved
–
–
–
–
Probable
1.21
3.29
3.98
0.13
Total
1.21
3.29
3.98
0.13
CdS I (oxide) Rosalino open pit
Proved
0.14
1.31
0.18
0.01
Probable
0.99
1.87
1.85
0.06
Total
1.13
1.80
2.03
0.07

CdS I (transitional) Rosalino open pit
Proved
0.02
1.79
0.04
0.00
Probable
0.31
2.26
0.71
0.02
Total
0.34
2.22
0.75
0.02
CdS II (sulphide) Sangue de Boi
Proved
0.03
5.36
0.18
0.01
underground
Probable
0.43
5.11
2.19
0.07
Total
0.46
5.12
2.37
0.08
CdS II (sulphide) São Bento Mine
Proved
–
–
–
–
underground
Probable
0.04
3.93
0.17
0.01
Total
0.04
3.93
0.17
0.01
CdS II (oxide)

Proved
–
–
–
–
Probable
0.28
2.32
0.65
0.02
Total
0.28
2.32
0.65
0.02
AGA Mineração – Córrego do Sítio
Total
4.42
3.28
14.49
0.47
202
MINERAL RESOURCE AND ORE RESERVE REPORT
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Ore Reserve modifying factors
AGA Mineração –
Córrego do Sítio
as at 31 December 2017
Gold price
BRL/oz
Cut-off
grade
g/t Au
Stoping
width
cm
Dilution
%
RMF
% (based
on tonnes)
RMF
% (based
on g/t)
MRF
% (based
on tonnes)
MRF
% (based
on g/t)
MCF
%
MetRF
%
CdS I (oxide) Rosalino
open pit
3,573
0.61
–
–
100.0
100.0
100.0
100.0
100.0
77.1*
CdS I (sulphide)
Cachorro Bravo
3,573
3.62
374.9
46.4
99.9
98.5
101.7

94.2
90.0
93.8**
CdS I (sulphide)
Carvoaria
3,573
3.62
228.2
47.3
99.9
98.5
101.7
94.2
90.0
93.8**
CdS I (sulphide)
Laranjeiras
3,573
3.62
259.6
47.8
99.9
98.5
101.7
94.2
90.0
93.8**
CdS I (sulphide)
Rosalino open pit
3,573
1.27
–
–
100.0
100.0
100.0
100.0
100.0
91.8*
CdS I (transitional)
Rosalino open pit
3,573
1.04
–
–
100.0
100.0
100.0
100.0
100.0
67.8*

CdS II (oxides)
3,573
0.76
–
–
100.0
100.0
100.0
100.0
100.0
70.0*
CdS II (sulphide)
Sangue de Boi
3,573
2.86
275.2
39.4
99.9
98.5
101.7
94.2
90.0
93.8**
CdS II (sulphide)
São Bento mine
3,573
2.86
264.4
45.7
99.9
98.5
101.7
94.2
90.0
93.8**
** Not considering dilution or mining recovery because Ore Reserve is calculated based on regularised model*
*** The gold reported represents the total Ore Reserve without MetRF however, it was considered in the cut-off grade calculation*
The percentage grade dilution and the MCF are already included in the Ore Reserve reported.
As the CdS underground mines have been in operation since 2011, the technical and economic modifying factors derive from
historic data and reasonable levels of certainty exist on CdS projections.
For the Ore Reserve estimates, a minimum thickness is applied for stope design. Other factors derive from historic data, such as the
dilution, ore loss and the MCF as well as the MetRF applied in the estimates.
Inferred Mineral Resource in business plan
AGA Mineração – Córrego do Sítio
as at 31 December 2017
Tonnes
million
Grade

g/t
Contained gold
tonnes Moz
CdS I (oxide) Rosalino open pit
0.15
1.12
0.17
0.01
CdS I (sulphide) Cachorro Bravo underground
0.04
5.01
0.21
0.01
CdS I (sulphide) Carvoaria underground
0.79
5.21
4.09
0.13
CdS I (sulphide) Laranjeiras underground
0.55
5.51
3.00
0.10
CdS I (sulphide) Rosalino open pit
0.16
3.50
0.55
0.02
CdS I (transitional) Rosalino open pit
0.07
1.51
0.11
0.00
CdS II (oxide)
0.08
2.14
0.18
0.01
CdS II (sulphide) Sangue de Boi underground
0.53
6.21
3.28
0.11
Total
2.36
4.91
11.59
0.37
The Inferred Mineral Resource is located in the mining panels in the lower areas of some sulphide deposits such as Cachorro Bravo,

Laranjeiras and Carvoaria underground mines in CdS I and the Sangue de Boi underground mine in CdS II. Rosolino also contains
some Inferred Mineral Resource in the business plans. In all cases the Inferred Mineral Resource is removed for both the financial
modelling and the reporting of the Ore Reserve.

AMERICAS
CONTINUED
AGA MINERAÇÃO – CÓRREGO DO SÍTIO
Ounces (millions)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.00
0.00
0.00
0.00
0.00
-0.05
-0.14
0.13
0.17
0.01
0.47
0.35
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Córrego do Sítio year-on-year changes in Ore Reserve
Total (attributable)
Year-on-year increase in the Ore Reserve, driven by the inclusion of transitional and sulphide material in the CdS Rosalino open pit
as well as Mineral Resource conversions.

AMERICAS
CONTINUED
AGA MINERA Ç Ã O – C U I A B Á

Introduction

Property description

An ongoing underground operation wholly owned by AngloGold Ashanti.

Location

The Cuiabá mine is located near Sabara, southeast of the city of Belo Horizonte in the state of Minas Gerais within the mining district referred to as the Iron Quadrangle. This region is the largest producer of iron ore and gold in Brazil.

History

Artisanal miners carried out the first mining in the area in 1749. Saint John Del Rey Mining Company Ltd acquired the mine in 1834. Exploration and 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 Anglo American Group and in 1999 its ownership was transferred to the holding company AngloGold (now AngloGold Ashanti) where it remains to date.

Legal aspects and tenure

The Cuiabá Mineral Resource and Ore Reserve are fully hosted by a single concession granted by the DNPM the Mine Manifest DNPM title 000.323/1973, held by AGA Mineração, covering a total area of 3,662ha. A new Brazilian mining code is currently under discussion. However, it is not anticipated to change the company's rights, which are already established.

Mining method

Cuiabá mine utilises two mining methods: cut and fill and longhole stoping. To improve the safety and productivity of the operation, in 2011, the mining method was changed from predominately cut and fill to longhole stoping (sub-level stoping and variations). In stopes with lower inclination, Cuiabá has a long hole method that reduces planned dilution to make some narrow veins feasible.

Operational infrastructure

The two plants connected by an aerial ropeway (Cuiabá gold plant and Queiroz plant) and a set of small hydropower plants (Rio de Peixe).

Cuiabá mine has a shaft system (846m deep) for production and personal transport, the current nominal airflow capacity is 1,035m /s, at which 320m/s are refrigerated.
3
3

Tailings deposition is at one of four sites located at Cuiabá, Calcinado, Rapaunha and Cocuruto.

Rio de Peixe hydroelectric complex is a set of seven small hydropower plants that generate energy from three dams (Ingleses, Miguelo and Codorna), connecting directly to the Queiroz plant.

Mineral processing

Cuiabá and Lamego Mines feed the Cuiabá Gold (flotation) and Queiroz (roaster, carbon circuit and refinery) plants, currently at 1.7Mtpa for a metallurgical recovery of 93.5%. At Cuiabá gold plant, crushing and milling of the ore is followed by flotation and filtration in order to produce a concentrate, which is transported by aerial ropeway to Queiroz for further treatment. Approximately 25% to 30% of gold is recovered through a gravity circuit at the Cuiabá plant. The backfill plant is also located at Cuiabá. The Queiroz plant is located in Nova Lima and comprises two different circuits for refractory ore (from Cuiabá) and non-refractory ore (used for the Raposos mine production in the past) with facilities for pyrometallurgy and hydrometallurgy. The concentrate is roasted, and the calcine proceeds to a carbon circuit for further refining. The sulphide gas is captured for processing through the acid plant. Approximately 230ktpa of sulphuric acid is produced as a by-product.

Risks

No material legal or environmental risks have been identified. Strategic studies are in place to manage the operational risks such as the low level of Ore Reserve and the reliance on Inferred Mineral Resource in the production plan, as well as the rock engineering constraints at depth.

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AMERICAS
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A G A M I N E R A Ç Ã O – C U I A B Á
Cuiabá mine
Lamego mine
0
0.5
1
1.5km
to Caeté
to Sabará
and Cuiabá
to Sabará
and Lamego
Mining lease area
Licences
Mine infrastructure
Roads
Mining
Mining application
Explotation application
Exploration
Exploration application
Plant
TSF
Waste dumps
Underground access
Main
Secondary
Aerial ropeway
Cuiabá plant centroid co-ordinates
43°43’55”W, 19°51’40”S

Competent Persons
AGA Mineração – Cuiabá
Category
Competent Person
Professional
organisation
Membership
number
Relevant
experience
Qualification
Mineral Resource
Rodrigo Martins
MAusIMM
311 050
13 years
MSc (Geology), BSc (Geology)
Ore Reserve
Alexandre Marcos Petermann
FAusIMM
300 299
16 years
BSc (Hons) Mining Engineering,
MDP
Geology
The area in which Cuiabá is located is known as the Iron Quadrangle and is host to a number of historic and current gold mining
operations, as well as a number of open pit limestone and iron ore operations. The geology of the Iron Quadrangle is composed of
Proterozoic and Archaean volcano-sedimentary sequences and pre-Cambrian granitic complexes.
Deposit type
Cuiabá is a gold-only Archaean banded iron formation (BIF)-hosted gold deposit. The deposit is located in an intermediate meta-
mafic sequence of the Archaean Greenstone Belt. It is characterised by hydrothermal alteration of the rocks, with the mineralisation
occurring mainly in BIF layers, and subordinately in quartz veins or in the host schists. The host to the gold mineralisation is the
volcano-sedimentary Nova Lima Group that occurs at the base of the Rio das Velhas Super Group. The upper sequence of
the Rio das Velhas Super Group is the meta-sedimentary Maquin Group. The gold mineralisation at Cuiabá has features and
characteristics of epigenetic orogenic gold deposit typical of Archaean gold-lode deposits.
Mineralisation style
Cuiabá mine has gold mineralisation associated with sulphides and quartz veins in BIF and volcanic sequences. Structural control
and fluid flow are the most important factors for gold mineralisation with a common association between large-scale shear zones
and their associated structures. Where BIF is mineralised 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.
Mineralisation characteristics
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
- overturned limb: Balanco, Galinheiro and Canta Galo

Secondary orebodies occur in hydrothermaly altered schists at the footwall of Galinheiro (Galinheiro footwall orebody) and
hydrothermaly altered schists/quartz veins near the footwall of Fonte Grande Sul and Serrotinho (quartz vein orebodies).

Exploration

In 2017, 66,000m of drilling was completed with underground drilling comprising almost 60,000m of this total. Underground
exploration focused on two processes, Mineral Resource conversion and Mineral Resource addition representing 67% (40,200m)
and 33% (19,800m) of the underground drilling respectively. The target for exploration is to have three years production without
Inferred Mineral Resource and five years without conceptual material in the mine plan.

AMERICAS
CONTINUED
A G A M I N E R A Ç Ã O – C U I A B Á
For the Mineral Resource conversion, Galinheiro Levels 9, 12 and 15, Balanco Levels 15 to 17, Serrotinho Level 19, Cantagalo Level 14,
Galinheiro footwall (footwall of Fonte Grande Sul) on various levels and Fonte Grande Sul Levels 17 to 19 were the main targets
converted. The drilling for Fonte Grande Sul continues to be executed from a hangwall drive specifically developed for Mineral
Resource conversion drilling and from the Fonte Grande Sul ramp, which is also used to drill Serrotinho. The Mineral Resource
addition was focused on Serrotinho conceptual material on Level 19, Galinheiro Levels 15 and 19 to 21 and Galinheiro footwall
(footwall of Fonte Grande Sul) orebody on various levels.
During 2017, the exploration deep drilling programme continued to confirm the depth continuity of the Cuiabá orebodies, starting
with Serrotinho/Fonte Grande Sul around Level 28 and Balanco/Galinheiro on Level 32. The results show the continuity of Fonte
Grande Sul and Serrotinho. Balanco returned high grades associated with intense sulphidation and an increase in thickness.
Galinheiro also returned economic grades associated with sulphidation but with similar grade and thickness to the upper levels.
The deep drilling is being undertaken using a drill rig that can reach depths of 2,600m (HQ) and 3,300m (NQ), applying wedging and
a directional core barrel to direct the drilling and control the natural deviation that affects the trajectory of the drillhole as well as to
drill deflections out of the parent holes.

Projects

In the near term, Cuiabá will increase plan confidence by achieving production stability, building flexibility through targeted
production interventions and by increasing Ore Reserve and developed stope stocks. Operational effectiveness will be the
foundation for the strategic approach. Currently, the mine team is reviewing the mine plan in order to meet the current cash
generation needs, looking to opportunities for the inclusion of Galinheiro orebody and to maximise production from the secondary
orebodies, both near and within infrastructure.
3D view of the Cuiabá orebody
0
500
1,000
1,500
Plunge 00
Looking North

Americas
Administrative

Over the next five years, Cuiabá plans to optimise the orebody capability by targeting the secondary and satellite veins in
conjunction with the main orebodies. Lamego mine will possibly be integrated into Cuiabá's plans as the mine looks to maximise
orebody capability by balancing selectivity against bulk mining.

In the long term, Cuiabá plans to maintain sustainable production by continuing to explore and convert the Mineral Resource below
infrastructure and bring the full economic endowment to production.

AMERICAS
CONTINUED
A G A M I N E R A Ç Ã O – C U I A B Á

Mineral Resource

Details of average drillhole 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
10 x 20, 20 x 30
–
–
–
–
Indicated
20 x 40, 40 x 60
–
–
–
–
Inferred
40 x 60,
80 x 120
–
–
–
–
–
Grade/ore control
5 x 5
–
–
–
–

Inclusive Mineral Resource

AGA Mineração – Cuiabá
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes

Moz
Narrow veins – Balancão
Measured
0.82
8.39
6.84
0.22
Indicated
1.66
12.06
20.05
0.64
Inferred
0.22
8.36
1.83
0.06
Total
2.70
10.65
28.72
0.92
Narrow veins – Galinheiro
Measured
0.70
7.17
5.01
0.16
Indicated
1.36
7.22
9.80
0.32
Inferred
0.76
5.85
4.43
0.14
Total
2.81
6.84
19.24
0.62
Narrow veins – Canta Galo
Measured
0.40
7.28
2.91
0.09
Indicated
0.08

10.10
0.85
0.03
Inferred
0.21
8.40
1.79
0.06
Total
0.70
7.96
5.55
0.18
Main deposits – Fonte Grande Sul
Measured
0.85
9.13
7.76
0.25
Indicated
0.80
8.89
7.09
0.23
Inferred
3.63
13.34
48.45
1.56
Total
5.28
11.99
63.30
2.04
Main deposits – Serrotinho
Measured
0.65
10.76
6.98
0.22
Indicated
0.82
10.19
8.32
0.27
Inferred
0.87
11.59
10.06
0.32
Total

2.33
10.87
25.35
0.82
Secondary areas – satellite orebodies
Measured
0.78
6.12
4.77
0.15
Indicated
0.17
6.71
1.15
0.04
Inferred
0.32
6.08
1.92
0.06
Total
1.27
6.19
7.84
0.25
Secondary areas – Galinheiro footwall
Measured
–
–
–
–
Indicated
0.42
6.25
2.65
0.09
Inferred
0.51
5.92
3.01
0.10
Total
0.93
6.07
5.66
0.18
Secondary areas – sill pillars
Measured
2.13
9.57
20.43

0.66
Indicated
0.51
9.36
4.74
0.15
Inferred
0.67
12.40
8.34
0.27
Total
3.31
10.11
33.51
1.08

Cuiabá
Grade tonnage curve underground (metric) (attributable)
Tonnes above
cut-off (millions)
Average grade
above cut-off (g/t)
21
18
15
12
9
6
3
0
27
24
21
18
15
12
9
0
2
6
8
10
14
16
18
20
22
24
4
12
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Exclusive Mineral Resource
AGA Mineração – Cuiabá
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Measured
4.64
9.40

43.65
1.40
Indicated
1.18
11.18
13.18
0.42
Inferred
7.35
11.03
81.05
2.61
Total
13.17
10.47
4.43
137.88
AGA Mineração – Cuiabá
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Secondary areas – quartz vein
Measured
–
–
–
–
Indicated
0.12
6.71
0.77
0.02
Inferred
0.17
7.45
1.23
0.04
Total
0.28
7.15
2.01
0.06
AGA Mineração – Cuiabá
Total
19.61

9.75
191.17
6.15
Inclusive Mineral Resource by-product: sulphur (S)

AGA Mineração – Cuiabá
as at 31 December 2017

Category	Tonnes million	Grade %S	Contained sulphur tonnes million	pounds million
Measured	6.33	6.6	0.42	917
Indicated	5.94	7.1	0.42	928
Inferred	7.35	6.0	0.44	971
Total	19.61	6.5	1.28	2,816

Estimation
The Cuiabá dataset consists of channel samples and drillhole samples. The 3D modelling and estimation is performed using two estimation domains, namely the broad mineralisation, consisting of Fonte Grande Sul and Serrotinho, and the narrow-vein domain consisting of Balanco, Galinheiro and Canta Galo. All channel and drillhole samples are used in the creation of 3D geological models and for identifying rock types in order to incorporate lithological proportions for 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 Mineral Resource, following a standard internal AngloGold Ashanti methodology.

Inclusive Mineral Resource
continued

Australasia
Americas
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AMERICAS
CONTINUED

A G A M I N E R A Ç Ã O – C U I A B Á

The Mineral Resource has increased around 6% from 5.8Moz in 2016 to 6.1Moz. Total tonnes have increased 11.98% whereas
Au grade (g/t) has reduced 4.9%. Exploration additions added 1.11Moz, with the deep drilling targeting Fonte Grande Sul around
Level 30 being the main contribution to that gain. This was partially offset by mining depletion and changes in modelling.
Cuiabá is not sensitive to changes in gold price.

1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
5
0
-5

Cuiabá

Inclusive Mineral Resource sensitivity
Ounces
(millions)
7.0
6.5
6.0
5.5
5.0
4.5
4.0
0.00
0.00
0.00
0.00
0.00
0.00
-0.30
-0.44
1.11
5.78
6.15
2016
Depletion
Exploration
Methodolog
y
Gold price
Cost
Geotechnical

Metallurgical
Other
Acquisition/
disposal
2017
Cuiabá
year-on-year changes in Mineral Resource
Total (attributable)

The exclusive Mineral Resource consists primarily of the Inferred Mineral Resource that is in the process of being upgraded via infill drilling. The exclusive Mineral Resource is located below infrastructure, starting on Level 18 (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 footwall), between Levels 15-16 as well as below Level 17 (at Balanço and Canta Galo), and below Level 21 (Fonte Grande Sul Deeps and Serrotinho Deeps). In addition, secondary areas consisting of old stoping panels, quartz vein orebody and satellite deposits, as well as sill pillars for all orebodies are included.

Mineral Resource below infrastructure

AGA Mineração – Cuiabá

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	0.00	6.71	0.00	0.00
Indicated	3.00	10.09	30.28	0.97
Inferred	6.55	12.07	79.06	2.54
Total	9.55	11.45	109.34	3.52

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Ore Reserve
Ore Reserve
AGA Mineração – Cuiabá
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Narrow veins – Balancão
Proved
0.52
5.92
3.08
0.10
Probable
2.48
6.09
15.13
0.49
Total
3.00
6.06
18.20
0.59
Narrow veins – Galinheiro
Proved
0.28
5.81
1.63
0.05
Probable
1.23
4.89
6.02
0.19
Total
1.51
5.06
7.66
0.25
Narrow veins – Canta Galo
Proved
0.17
5.79
0.99
0.03
Probable

0.11
6.31
0.67
0.02
Total
0.28
5.99
1.66
0.05
Main deposits – Fonte Grande Sul
Proved
0.38
5.39
2.04
0.07
Probable
0.65
6.42
4.17
0.13
Total
1.03
6.04
6.21
0.20
Main deposits – Serrotinho
Proved
0.30
7.23
2.18
0.07
Probable
0.86
7.32
6.32
0.20
Total
1.17
7.29
8.50
0.27
Secondary areas – Galinheiro footwall
Proved
–
–
–
–
Probable
0.21
5.49
1.13

0.04
Total
0.21
5.49
1.13
0.04
Secondary areas – quartz vein
Proved
–
–
–
–
Probable
0.10
3.57
0.37
0.01
Total
0.10
3.57
0.37
0.01
AGA Mineração – Cuiabá
Total
7.29
5.99
43.73
1.41
Ore Reserve by-product: sulphur (S)
AGA Mineração
Category
Tonnes
million
Grade
%S
Contained sulphur
as at 31 December 2017
tonnes million pounds million
Proved
1.65
4.7
0.08
171
Probable
5.64
4.5
0.25
561
Total
7.29
4.6

0.33
731
Estimation
The gold price, projected operational performance and costs as well as metallurgical recoveries are taken into consideration in
estimating the Ore Reserve. Mining parameters such as the mining method, minimum mining width, MCF, dilution and recovery are
all applied in the process.
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A G A M I N E R A Ç Ã O – C U I A B Á

Ore Reserve modifying factors

Cuiabá as at 31 December 2017	**Gold price BRL/oz**	**Cut-off grade g/t Au**	**Stoping width cm**	**Dilution %**	**MCF %**	**MetRF %**
Main deposits – Fonte Grande Sul	3,573	3.02; 3.63*	600.0	58.0	94.1	93.5
Main deposits – Serrotinho	3,573	3.02; 3.63*	600.0	33.0	94.1	93.5
Narrow veins – Balancão	3,573	3.02; 3.63*	200.0	49.0	94.1	93.5
Narrow veins – Canta Galo	3,573	3.02; 3.63*	200.0	43.0	94.1	93.5
Narrow veins – Galinheiro	3,573					

3.02; 3.63*
200.0
35.0
94.1
93.5
Secondary areas – Galinheiro footwall
3,573
3.02; 3.63*
200.0
28.0
94.1
93.5
Secondary areas – quartz vein
3,573
3.02; 3.63*
200.0
35.0
94.1
93.5
** Cut-off grade = 3.02g/t in areas where Ore Reserve development is already done; cut-off grade = 3.63g/t in Ore Reserve not accessed*
Two cut-off grades are calculated and applied in the Ore Reserve estimation process. The higher cut-off grade is applied to the
Mineral Resource which are still to be accessed by primary development, bearing such costs and additional projected capital
expenses (full cut-off grade). The lower cut-off grade is applied upon the Mineral Resource where primary development already
exists, which bear all the downstream costs, except for capital development (cut-off grade without development). Dilution is
considered in two stages; planned dilution, inherent to the mining area, which is incorporated as a function of operational needs
related to the size of the equipment involved; operational dilution, which is a result of drilling and blasting processes, ore mucking in
the stopes, and its transfer to the loading station. Unplanned dilution is 12% for longhole mining method.
Inferred Mineral Resource in business plan
AGA Mineração – Cuiabá
as at 31 December 2017
Tonnes
million
Grade
g/t
Contained gold
tonnes Moz
Main depostis – Fonte Grande Sul
4.81
6.68
32.14
1.03
Main depostis – Serrotinho
0.90
7.77

7.02
0.23
Narrow veins – Balancão
0.27
3.93
1.05
0.03
Narrow veins – Galinheiro
0.48
3.97
1.93
0.06
Narrow veins – Canta Galo
0.23
4.36
1.00
0.03
Secondary areas – Galinheiro footwall
0.22
4.71
1.02
0.03
Secondary areas – Quartz vein
0.13
4.61
0.58
0.02
Total
7.04
6.35
44.75
1.44
Ore Reserve below infrastructure
AGA Mineração – Cuiabá
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Proved
–
7.83
0.02
–
Probable
2.69
6.00

16.14
0.52
Total
2.69
6.00
16.16
0.52

Ounces
(millions)
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
-0.28
0.50
1.41
1.18
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Cuiabá year-on-year changes in Ore Reserve
Total (attributable)
Year-on-year the Ore Reserve has increased. The increase is due to exploration additions, specifically on the Balancão orebody
below Level 12.
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A G A M I N E R A Ç Ã O – L A M E G O

Introduction

Property description

An ongoing underground operation, wholly owned by AngloGold Ashanti, with an estimated production rate of 450ktpa until 2017, downsizing to 350ktpa thereafter.

Location

Lamego is located in the north-west of the Iron Quadrangle, close to the Cuiabá gold mine. The mine is located to the east of Belo Horizonte, the capital of Minas Gerais State, in the southeast of Brazil.

History

Exploration began in the area in 1985 with a drilling campaign along a 5.7km strike length of iron formation and the opening of 2.5km of development of the Arco da Velha, Queimada and Cabea de Pedra orebodies. After the successful completion of the FS, project approval was given and implementation began in 2010 with first gold poured soon afterwards.

Legal aspects and tenure

The Lamego mining operation is hosted by three geographically contiguous DNPM concessions granted to AGA Mineração:

- The DNPM Mining Concession 830.720/1981 with 577.14ha in area
- The DNPM Mining Concession 831.554/1983 with 462.09ha in area
- The DNPM Mining Concession 832.238/2003 with 583.45ha in area

A new Brazilian mining code is currently under discussion. However, it is not anticipated to change the company’s rights, which are already established.

Mining method

Three mining methods were considered for Lamego during the PFS, cut and fill, stope and pillar and sublevel open stoping. Based on rock engineering and productivity considerations the mine ultimately settled on blind hole open stope method. This is supported by a detailed infill drilling programme. Cut and fill is also used when the orebodies exceed 20m divs. While this method allows for selectivity, it has constraints in terms of productivity.

Operational infrastructure

Lamego operates as a satellite mine to Cuiabá mine. Ore is transported to surface via ramps where it is crushed, stockpiled and transported daily to Cuiabá plant, and its ore is blended with Cuiabá ROM.

Metallurgical processing is done by two plants connected via an aerial ropeway (Cuiabá gold plant and Queiroz plant) and a set of small hydropower plants (Rio de Peixe).

Electricity is provided by Rio de Peixe hydroelectric complex, which is a set of seven small hydropower plants that generate energy from three dams (Ingleses, Miguelo and Codorna), connecting directly to the Queiroz plant.

Lamego has a natural water supply system and a plant for water and sewage treatment.

Mineral processing

Cuiabá and Lamego feed the Cuiabá gold (flotation) and Queiroz (roaster, carbon circuit and refinery) plants, currently at 1.7Mtpa for a metallurgical recovery of 93.5%. At Cuiabá gold plant, crushing and milling of the ore is followed by flotation and filtration in order to produce a concentrate, which is transported by aerial ropeway to Queiroz for further treatment. Approximately 25% to 30% of gold is recovered through a gravity circuit at the Cuiabá plant. The backfill plant is also located at Cuiabá. The Queiroz plant is located in Nova Lima and comprises two different circuits for refractory ore (from Cuiabá) and non-refractory ore (used for the Raposos mine production in the past) with facilities for pyrometallurgy and hydrometallurgy. The concentrate is roasted and the calcine proceeds to a carbon circuit for further refining. The sulphide gas is captured for processing through the acid plant. Approximately 230ktpa of sulphuric acid is produced as a by-product.

Risks

There are no major or significant risks. However, as a low grade operation, the accurate prediction of grade and the management of its variability is critical to ensure a successful operation.

Strategic studies in place are managing some possible risks such as low level of Ore Reserve and the reliance on Inferred Mineral Resource in the production plan and rock engineering constraints at depth.

Cuiabá Mine
Lamego Mine
0
2.5
5
7.5km
Nova Lima Sul
Queiroz Plant
Raposos Mine
(non operational)
Morro da Gloria Mine
(non operational)
Rio de Peixe hydropower
to Sabará
to Caeté
Licences
Mine infrastructure
Roads
Mining
Mining application
Exploration
Exploration application
Plant
TSF
Waste dumps
Underground access
Main
Secondary
Aerial ropeway
Cuiabá plant centroid co-ordinates
43°43’55”W, 19°51’40”S
Hydropower
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A G A M I N E R A Ç Ã O – L A M E G O
Competent Persons
AGA Mineração – Lamego
Category
Competent Person
Professional
organisation
Membership
number
Relevant
experience
Qualification
Mineral Resource
Rodrigo Martins
MAusIMM
311 050
13 years
MSc (Geology), BSc (Geology)
Ore Reserve
Alexandre Marcos Petermann FAusIMM
300 299
16 years
BSc (Hons) Mining Engineering,
MDP
Geology
Deposit type
The area in which Lamego is located is known as the Iron Quadrangle and is host to a number of historic and current gold mining
operations, as well as a number of open pit limestone and iron ore operations. The geology of the Iron Quadrangle is composed of
Proterozoic and Archaean volcano-sedimentary sequences and pre-Cambrian granitic complexes.
The Arco da Velha deposit is located on the eastern side of a large fold and extends for 250m along the strike. In the northeastern
portion, the mineralisation is concentrated in the meta-chert (MCH) while, in the southwestern portion, it is concentrated in the BIF.
Carbonaceous phyllite and chlorite-sericite schists occur on the hangingwall contact while hydrothermally altered meta-andesite
occurs in the footwall.
Queimada is located in the normal limb of Lamego and is divided into north and south portions. The north portion is narrower on
strike when compared to the south and the mineralisation is associated with arsenopyrite. The south orebody has more continuity
on strike but lower grades and is associated with pyrite.
The Cabea 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 and dykes makes the stratigraphy complex in some areas. The carbonaceous phillite and clorite/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 northeast portion of the major structure.
It is a boudinaged body with two large disruptions in the structure (pinch and swell), followed by an eastward displacement. The
gold mineralisation is mainly associated with hydrothermal zones within the BIF and quartz veins. The BIF mineralisation continuity
was tested during 2017 and show potential to increase the Mineral Resource towards the west.
3D view of the Lamego orebody
0
500
250
750
1,000
Plunge +04
Azimuth 004

Mineralisation style

The gold mineralisation at Lamego is characterised by orebodies associated with two horizons of chemical sedimentary rocks: BIF and MCH, 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. Lamego shows similar rock assemblage but with higher structural complexity than Cuiabá. The BIF, which contains the mineralisation, is more structurally deformed and contain more silica than Cuiabá, which reacted less with the hydrothermal fluid.

Mineralisation characteristics

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, which is concentrated on the hinges of the Lamego structure and has free gold as the main mineralisation with less percentage associated with sulphides. The plunge of the mineralised zones coincides with both the fold axis of the first two structural events and the mineral stretching.

Exploration

In 2017, 10,500m of underground drilling was completed with Carruagem, Cabea de Pedra and Carruagem SW being tested.

The Carruagem orebody was drilled from a dedicated hangingwall drive. Drilling along strike of Carruagem orebody tested BIF on both limbs and smoky quartz on the hinge, resulting in Mineral Resource addition.

At Carruagem SW exploration drilling was aimed at Mineral Resource addition and conversion. A FS to put the orebody into production should be completed during 2018.

At Cabea de Pedra the second fold was confirmed by the drilling campaign but it had a lower grade tenure than expected. On the first fold the inverse limb showed some potential to extend the main orebody.

Exploration work is in progress to identify new opportunities close to the current mine infrastructure.

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AGA MINERAÇÃO – LAMEGO

Mineral Resource

Details of average drillhole 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
–
–
–
–
Indicated
60 x 40
–
–
–
–
–
Inferred
120 x 60
–
–
–
–
–
Grade/ore control
3 x 3
–
–
–
–
–

Inclusive Mineral Resource

AGA Mineração – Lamego
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017

tonnes
Moz
Main deposits – Arco da Velha
Measured
0.54
4.22
2.28
0.07
Indicated
0.40
3.48
1.41
0.05
Inferred
0.66
2.89
1.92
0.06
Total
1.61
3.49
5.60
0.18
Main deposits – Cabeça de Pedra
Measured
0.35
3.79
1.32
0.04
Indicated
0.64
3.26
2.09
0.07
Inferred
1.26
3.14
3.97
0.13
Total
2.25
3.28
7.38
0.24
Main deposits – Carruagem
Measured
2.64
5.75
15.21
0.49
Indicated

1.02
6.03
6.17
0.20
Inferred
1.35
4.81
6.48
0.21
Total
5.01
5.56
27.86
0.90
Secondary areas – Queimada
Measured
0.08
6.14
0.47
0.02
Indicated
0.34
6.31
2.16
0.07
Inferred
0.80
5.69
4.58
0.15
Total
1.22
5.89
7.21
0.23
Secondary areas – Arco NE
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
0.76
3.23
2.44
0.08

Total
0.76
3.23
2.44
0.08
AGA Mineração – Lamego
Total
10.85
4.65
50.49
1.62

AGA Mineração – Lamego
Grade tonnage curve underground (metric) (attributable)
Tonnes above
cut-off (millions)
Average grade
above cut-off (g/t)
14
12
10
8
6
4
2
0
19
16
13
10
7
4
0
1
2
4
5
6
7
8
10 11 12 13 14 15
3
9
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Exclusive Mineral Resource
AGA Mineração – Lamego
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Measured
3.09
5.69
17.59
0.57
Indicated

1.26
6.05
7.65
0.25
Inferred
4.83
4.01
19.39
0.62
Total
9.19
4.86
44.63
1.43
The exclusive Mineral Resource is made up of ore not included in the Ore Reserve, due to economic considerations and confidence
plus the ore contained in the sill pillars and stope pillars. Those pillars have been designed in the Ore Reserve estimation process
according to geomechanical parameters.
Inclusive Mineral Resource by-product: sulphur (S)
AGA Mineração – Lamego
as at 31 December 2017
Category
Tonnes
million
Grade
%S
Contained sulphur
tonnes million pounds million
Measured
3.61
4.0
0.14
317
Indicated
2.41
4.6
0.11
244
Inferred
4.83
5.4
0.26
580
Total
10.85
4.8
0.52
1,141
Estimation

The geological model is used to sub-divide the sampling information into domains for estimation. The estimation method applied at
Lamego is ordinary kriging and classification of the Mineral Resource is based on conditional simulation.

As a low grade underground operation, Lamego is
fairly sensitive to changes in gold price.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
15
10
5
0
-5
-10
-15
Lamego
Inclusive Mineral Resource sensitivity
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The total Mineral Resource has increased around 12% from 1.44Moz as declared in 31 December 2016 to 1.62Moz as declared in
31 December 2017. Total tonnes has increased 12.4% whereas Au grade (g/t) has remained fairly constant. The main contributors
to the increase was from Carruagem and Queimada orebodies that increased 165koz and 45koz respectively due to the new drilling
and modelling.
Mineral Resource below infrastructure
AGA Mineração – Lamego
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Measured
0.02
3.77
0.08
0.00
Indicated
1.36
4.86
6.59
0.21
Inferred

3.21
3.78
12.12
0.39
Total
4.58
4.10
18.79
0.60
Ounces (millions)
1.75
1.50
1.25
1.00
0.75
0.18
0.05
0.00
0.00
0.00
0.00
0.00
0.00
-0.05
1.44
1.62
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Lamego
year-on-year changes in Mineral Resource
Total (attributable)
222
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Ore Reserve
Ore Reserve
AGA Mineração – Lamego
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Main deposits – Arco da Velha
Proved
0.20
3.59
0.71
0.02
Probable
0.04
3.63
0.15
0.00
Total
0.24
3.60
0.86
0.03
Main deposits – Cabeça de Pedra
Proved
0.01
2.75
0.04
0.00
Probable
0.06
2.75
0.16
0.01
Total
0.07
2.75
0.20
0.01
Main deposits – Carruagem
Proved
0.30
3.05
0.93
0.03
Probable

0.70
3.50
2.47
0.08
Total
1.01
3.37
3.40
0.11
Secondary areas – Queimada
Proved
0.00
3.69
0.01
0.00
Probable
0.34
4.08
1.40
0.05
Total
0.35
4.08
1.41
0.05
AGA Mineração – Lamego
Total
1.67
3.52
5.87
0.19
The Ore Reserve for Lamego comes mainly from the Carruagem and Arco da Velha orebodies.
Ore Reserve by-product: sulphur (S)
AGA Mineração – Lamego
Category
Tonnes
million
Grade
%S
Contained sulphur
as at 31 December 2017
tonnes million pounds million
Proved
0.52
2.9
0.02
34
Probable
1.15
2.0
0.02

50
Total
1.67
2.3
0.04
84
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.
Ore Reserve modifying factors
AGA Mineração – Lamego
as at 31 December 2017
Gold price
BRL/oz
Cut-off
grade
g/t Au
Stoping
width
cm
Dilution
%
Dilution
g/t
MCF
%
MetRF
%
Main deposits – Arco da Velha
3,573
2.20; 2.88*
350.0
15.0
2.3
94.5
93.5
Main deposits – Cabeça de Pedra
3,573
2.20; 2.88*
350.0
16.0
1.8
94.5
93.5
Main deposits – Carruagem
3,573
2.20; 2.88*
2,000.0

13.0
2.1
94.5
93.5
Secondary areas – Queimada
3,573
2.20; 2.88*
350.0
14.0
2.9
94.5
93.5
** Cut-off grade = 2.20g/t in areas where ORD already done; cut-off grade = 2.88g/t in Ore Reserve not accessed*
Two cut-off grades are calculated and applied in the Ore Reserve estimation process. The higher cut-off grade is applied to the
Mineral Resource which are still to be accessed by primary development, bearing such costs and additional projected capital
expenses (full cut-off grade). The lower cut-off grade is applied upon the Mineral Resource where primary development already
exists, which bear all the downstream costs, except for capital development (cut-off grade without development). Dilution is
considered in two stages; planned dilution, inherent to the mining area, which is incorporated as a function of operational needs
related to the size of the equipment involved; operational dilution, which is a result of drilling and blasting processes, ore mucking in
the stopes, and its transfer to the loading station. Unplanned dillution is 12% for longhole mining method.

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AGA MINERAÇÃO – LAMEGO
Ounces
(millions)
0.225
0.220
0.175
0.150
0.125
0.100
0.00
0.00
0.00
0.00
0.00
0.00
0.00
-0.04
0.04
0.01
0.19
0.19
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
AGA Mineração – Lamego year-on-year changes in Ore Reserve
Total (attributable)
Year-on-year there was a slight increase in the Ore Reserve, driven mainly be exploration success coming from the Carruagem and
Queimada orebodies, which offset the mining depletion.
Inferred Mineral Resource in business plan
AGA Mineração – Lamego
as at 31 December 2017
Tonnes
million
Grade
g/t
Contained gold
tonnes Moz
Main deposits – Cabeça de Pedra

0.06
3.31
0.21
0.01
Main deposits – Carruagem
0.05
4.26
0.22
0.01
Secondary areas – Queimada
0.27
3.79
1.01
0.03
Total
0.38
3.77
1.43
0.05
No Inferred Mineral Resource is included in the business plan or Ore Reserve.
Ore Reserve below infrastructure
AGA Mineração – Lamego
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Proved
0.00
3.69
0.01
0.00
Probable
0.83
3.64
3.03
0.10
Total
0.84
3.64
3.04
0.10
224
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AGA MINERAÇÃO – NOVA LIMA SUL

Introduction

Property description

Nova Lima Sul comprises the underground mine of Raposos. The project is currently in care and maintenance pending a decision around its future. No Ore Reserve is reported for Nova Lima Sul.

Location

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. The project area consists of an area of 7,000km
2
, close to the cities of Nova Lima, Raposos and Rio Acima.

History

The first formal mining company to start operations in the area was São João Del Rey Mining Company Ltd in 1834. It was acquired by Mineração Morro Velho in the early 1900s.

The Raposos mine reported 1.08Moz production from 1929 to 1999, after which it was put in care and maintenance.

Legal aspects and tenure

Nova Lima Sul is an exploration project wholly owned by AngloGold Ashanti and is made up of a number of DNPM Mining Concession including;

- Mining Concession No. 308-II 02/03/1936, DNPM 322/1973, covering an area of 2,826.33ha
- Mining Concession No. 308-VI 02/03/1936, DNPM 326/1973, covering an area of 7,465.22ha
- Mining Concession No. 308 V 02/03/1936, DNPM 325/1973, covering an area of 1,014.53ha

All three mining concessions are in good standing and as they do not host active production operations at the moment having been formally been put on a temporary mining suspension status according to the requirements of the current Brazilian mining code. Should AngloGold Ashanti decide to resume underground operations at these concessions, new mining plans will need to be submitted to the DNPM. In 2017 the Mineral Resource of Morro da Glória was written-off due to urban growth and environmental restrictions that resulted from the creation of a preservation area, called Serra do Gandarela National Park and which prevents the issuance of mining permits and environmental licences.

Mining method

Raposos mine operated with a cut and fill method.

Operational infrastructure

Raposos mine has significant amount of underground development, a shaft and a cableway to take the ore to Queiroz plant. Morro da Glria has some underground drifts developed.

Mineral processing

Raposos mine circuit was a standard direct 1,000tpd gold-leaching circuit suitable for non-refractory material.

Risks

The project has been on care and in maintenance for a number of years.

Competent Persons

AGA Mineração – Nova Lima Sul
Professional
Membership
Relevant
Category

Competent Person
organisation
number
experience
Qualification
Mineral Resource
Rodrigo Martins
MAusIMM
311 050
13 years
MSc (Geology), BSc (Geology)

Geology

Deposit type

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 Raposos sequence is interpreted as a ductile thrust that occurred during the first deformation event of the structural history.

The main mineralisation is associated with an anticline of the same age. The stratigraphic sequence, which is repeated by folds, has ultramafics at the base, overlain by komatiitic basalts and andesites with layers of BIF. Pelites and meta-volcaniclastic at the top of the sequence. The BIF belongs to the oxide facies (magnetite and quartz) and occurs with carbonatisation in the mineralised areas.

The macro structure at Raposos is an anticline and the mineralisation is associated with these folds and shear zones, surrounded by concentric hydrothermal alteration zones consisting of sericitisation, carbonisation and chloritisation. The gold is associated with sulphides and quartz veins in the BIF as well as with altered schists.

Mineralisation style
The mineralisation in the Rio das Velhas greenstone belt are structurally controlled and are associated with hydrothermal alteration
along regional D2 thrust shear zones. The mineralisation is epigenetic and at Nova Lima Sul either of massive, banded or
disseminated sulphides hosted in BIF and lapa seca (albitised hydrothermal rocks).
Mineralisation characteristics
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. The
mineralisation is primarily located in the BIF and surrounded by concentric hydrothermal alteration zones consisting of sericitisation,
carbonatisation and chloritisation.

Exploration

In 2017 no exploration was completed in the Nova Lima Sul region. Nova Lima Sul exploration targets comprise the Raposos
underground mine, the Mina Grande, Morro da Glria, Bicalho, Faria, Bela Fama mines, as well as the old prospects (Luzia da Mota,
Limoeiro) and several old surface workings (Saboeiro Rasgo, Urubu and Mina Grande).

Mineral Resource

Details of average drillhole 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
30 x 30
–
–
–
Indicated
60 x 60
–
–
–
–
Inferred
100 x 100
–
–
–
Grade/ore control
3 x 3
–

–
–

Inclusive Mineral Resource

AGA Mineração – Nova Lima Sul	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
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
AGA Mineração – Nova Lima Sul	Total	2.84	6.53	18.59	0.60

Estimation

Raposos mine was estimated by the geostatistical UC technique.

AMERICAS
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AGA MINERAÇÃO – NOVA LIMA SUL

Nova Lima Sul

Grade tonnage curve underground (metric) (attributable)

Tonnes above
cut-off (millions)
Average grade
above cut-off (g/t)
4
3
2
1
0

14
12
10
8
6
0
1
3
4
5
7
8
9
10
2
6
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off

Exclusive 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 below infrastructure

AGA Mineração – Nova Lima Sul

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	–	–	–	–
Indicated	0.41	6.85	2.80	0.09
Inferred	2.25	6.44	14.50	0.47
Total	2.66	6.50	17.30	0.56

All the Mineral Resource below Level 36 of Raposos mine is considered to be below infrastructure.

Ounces
(millions)
1.0
0.8
0.6
0.4
0.2
0.0
0.00
0.00
0.00
0.00
0.00
0.00
0.00

-0.26
0.86
0.60
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Nova Lima Sul
year-on-year changes in Mineral Resource
Total (attributable)
0.00
The total inclusive Mineral Resource reduced 30% due to the write-off of the Morro da Glória Mineral Resource. In 2017 the
Mineral Resource of Morro da Glória was written-off due to urban growth and environmental restrictions that resulted from
the creation of a preservation area, Serra do Gandarela National Park, and which prevents the issueing of mining permits and
environmental licences.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
0
5
-5
Nova Lima Sul
Inclusive Mineral Resource sensitivity
Nova Lima Sul is not sensitive to changes in
gold price.
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SERRA GRANDE

Introduction

Property description

Mineração Serra Grande (MSG or Serra Grande) is 100% owned by AngloGold Ashanti and is located in the north-western area of the Goias State, central Brazil. It operates three underground and two open pit mines.

Location

Serra Grande is located 5km south of the town of Crixas, 420km from the Brazilian capital, Brasilia and about 350km from the state capital of Goias, Goiania. Employing 1,120 persons in this largely rural area means that the mine represents the principal economic activity in the region.

History

Exploration works begun in 1973 with a phase of detailed mapping and DD, which continued until 1976. The mining operation started up in 1986 in Mina III and the metallurgical plant start up was in 1989.

Serra Grande production peaked at 210kozpa supported by high grades. In 2009, the metallurgical plant was expanded to 1.3Mtpa to compensate for a declining grade-profile and, in 2012 AngloGold Ashanti acquired the 50% stake that belonged to the Kinross Group.

Legal aspects and tenure

The Serra Grande has interest or agreements over 61,500ha in the Crixas Greenstone belt through a series of DNPM mining leases and exploration permits. The mining concessions include:

- 002.286/1935, covering an area of 4,206.88ha
- 960.658/1987, covering an area of 1,946.89ha
- 860.746/2005, covering an area of 88.28ha
- 862.103/1994, covering an area of 125.41ha
- 804.366/1975, covering an area of 196.05ha

Brazilian mining concessions remain valid up to the depletion of the Ore Reserve and Mineral Resource. A new Brazilian mining code is currently under discussion. However, it is not anticipated to change the company’s rights, which are already established.

Mining method

The Serra Grande operation comprises three underground mines, namely Mina III (including Orebody IV, V and Ing), Mina Nova (including Pequizo Orebody) and Mina Palmeiras. The open pits are the outcrop of Mina III Inferior and Structure IV zones. Three mining methods are being used underground: sub-level stoping (bottom-up and top-down), cut and fill, and room and pillar.

Operational infrastructure

Serra Grande power supply comes from the government’s local state concessionaire. It operates a single tailings dam, which will support the LOM production with government environmental licensing already available. The water used in metallurgical processing comes from underground mines.

The state road GO-337 passes alongside operation providing logistical facility to its supply chain.

Mineral processing

The metallurgical plant has the capacity of 1.4Mtpa, combining CIL and gravimetric circuits.

The ore is blended to feed the crushing circuit with 3,800tpd. There are two mills in operation, and 20 leaching tanks with capacity of 4,800m^3 divided on pre-liming and cyanidation stages. About

58% free gold is captured in the parallel gravity circuit. The rest of the gold is recovered by the CIL process to form the bullion that is sent to Nova Lima refining process.

Risks

There is no material risk in the Mineral Resource and Ore Reserve statement at Serra Grande.

Crixás City
Mine III
Corpo V
Palmeiras Portal
Pequizão/Mina Nova Portal
Mina III Portal
Mine village
0
0.5
1
1.5km
Corpo Sul
Mining lease area
Plant centroid co-ordinates
49°58’04”W, 14°34’25”S
Licences
Mine infrastructure
Roads
Settlements
Mining
Exploration
Exploration application
Pits
Plant
TSF
Villages
Towns
Main
Secondary
Underground access
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Competent Persons
Serra Grande
Category
Competent Person
Professional
organisation
Membership
number
Relevant
experience
Qualification
Mineral Resource
Diogo Afonso Costa
MAusIMM
311 574
15 years
BSc (Geology)
Ore Reserve
Rodrigo Fideles
MAusIMM
326 102
7 years
BSc (Mining Engineering)
AMERICAS
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SERRA GRANDE
Geology
The Serra Grande gold deposits are hosted in a typical greenstone belt sequence.Two main deformational events have been
identified in the region. The first event is a thrusting event (D1 from west to east) developed with irregular thrust ramp geometry.
This event was responsible for stacking and inverting the stratigraphic sequences. The second event (D2) was the thrusting of the
Santa Terezinha sequence over the Crixs greenstone belt, folding the rocks (F2) and generating the structural controls of the gold
mineralisation, generally parallel to the fold axis.
Deposit type
The deposit is an orogenic mesothermal gold deposit associated with the development of shear zones and the host rocks belong
to the Upper Archaean Crixas Group. Gold mineralisation is associated with meta-sediments and meta-volcanics rocks from the
Ribeiro das Antas and Rio Vermelho formations respectively. The Crixas Greenstone Belt is surrounded by granitic gneiss terrains
from the Anta and Caiamar complexes and meta-sedimentary rocks of the Santa Terezinha Group, which is part of the Goias
magmatic arc.
Mineralisation style
The mine is located in the Crixas Greenstone Belt sequence, in the central portion of Brazil, and the main host rocks are the meta-
sedimentary sequences with association with meta-volcanic meta-basic rocks. The mineralisation at MSG is associated with quartz

veins and massive to disseminated sulphides in meta-sedimentary, meta-volcaniclastic and meta-basalt rocks, with differing degrees
of hydrothermal alteration developed over orogenical stacked thrust layers (duplexes). Two main deformation events are responsible
by mineralisation style. The first event is the principal thrust event (east over west, called D1) and develops an irregular thrust ramp
geometry which stacked and inverted the stratigraphic sequence. The second event (D2) was the Santa Terezinha sequence
(Magmatic Arc) thrusting over Crixas Greenstone Belt, folding the rocks (F2) and generating the structures that control the gold
mineralisation, generally parallel to the fold axis.

Mineralisation characteristics

The geometry of the mineralised deposits are typically complex and pinch and swell in addition to being folded and boudinaged.
They dip from 10° to 25° and with greatest continuity along north-west-plunging structures (azimuth 290°).
The mineralised zones have been separated into four main domains called Structures II, III, IV and Palmeiras. In Structure II the
mineralisation is arsenopyrite associated with quartz as veinlets in carbonaceous metapelite. In the Structure III the mineralisation
is located in quartz veins that are hosted in graphitic schists. This structure is also associated with massive and disseminated
sulphides (mainly pyrrhotite and arsenopyrite) that occur in a sequence of hydrothermally altered schists. The mineralisation of
Structure IV comprises quartz veinlets and disseminated sulphide (pyrrhotite) hosted in graphitic schists. The mineralised zones
of the Structure Palmeiras are hosted in sericite and chlorite schists with massive and disseminated sulphide concentrated in
folded zones.

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S E R R A G R A N D E

Exploration

The Serra Grande exploration programme has added 1.7Moz of Mineral Resource to its portfolio over the past five years with an average grade of 5.03g/t. The strategy has been to target zones close to high-grade Mineral Resource, such as Mangaba and Orebody IV down plunge.

As part of the overall strategy, 38,499m of DD for Mineral Resource addition purposes were completed in 2017 over the principal exploration targets of Orebody IV down plunge and Mangaba. An additional 68,110m of Mineral Resource conversion and grade control drilling were done in Mina Nova, Mina III, open pits and Inga.

New regional targets are being generated through drilling. In 2017, the principal drilling was focused on new Mineral Resource additions at Mangaba and Orebody IV down plunge. Deep drilling below the Mina III has identified a new target named Caja and below Orebody V has identified another target named Limoeiro. Both discoveries confirm the depth potential of the Crixas greenstone belt and additional drilling is planned for 2018.

Projects

In recent years, the yield of the Serra Grande plant was increased by about 20%, mainly due to the activated carbon project, which is looking to replace the filter circuit with a CIL. This new filter circuit added about 80ktpa.

The metallurgical plant has the capacity to treat 1,500ktpa.

Mineral Resource

Details of average drillhole 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, 10 x 20
–
Indicated
25 x 25, 40 x 20,
50 x 20
–
–
Inferred
50 x 100,
100 x 50
–
–

–
–
–
Grade/ore control
2 x 2, 10 x 10
–
–
–
CORPO IV
MANGABA
PEQUIZÃO
INGÁ
MINA NOVA
CORPO V
PALMEIRAS
DONA TEREZA
0
250
500
Str. Palmeiras
Orebodies
Str. IV
Orebodies
Upper Zone
Orebodies
Str. III
Orebodies
CORPO SUL
PALMEIRAS SUL
3,5
CORPO A
MINA III
SUCUPIRA
FORQUILHA
BARU
CORPO XI
VENÂNCIO
N
3D view of the Serra Grande orebody

Inclusive Mineral Resource
Serra Grande
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Mina Nova
Measured
2.64
3.38
8.94
0.29
Indicated
1.10
3.23
3.55
0.11
Inferred
2.07
3.42
7.08
0.23
Total
5.81
3.37
19.56
0.63
Mangaba
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
1.00
4.87
4.87
0.16
Total
1.00
4.87

4.87
0.16
Mina III
Measured
1.61
4.87
7.82
0.25
Indicated
1.73
4.87
8.40
0.27
Inferred
2.61
4.60
12.00
0.39
Total
5.94
4.75
28.23
0.91
Palmeiras
Measured
0.16
7.14
1.12
0.04
Indicated
0.34
5.60
1.93
0.06
Inferred
0.94
4.44
4.15
0.13
Total
1.44
5.01
7.20
0.23
Palmeiras Sul
Measured
–
–
–
–
Indicated

0.06
6.62
0.42
0.01
Inferred
0.12
6.78
0.78
0.03
Total
0.18
6.72
1.20
0.04
Pequizao
Measured
1.31
4.35
5.71
0.18
Indicated
1.59
3.57
5.66
0.18
Inferred
3.78
3.74
14.15
0.45
Total
6.68
3.82
25.52
0.82
Cajueiro
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
1.22
3.01
3.66
0.12

Total
1.22
3.01
3.66
0.12
MSG Inga
Measured
0.00
10.62
0.05
0.00
Indicated
0.63
6.33
4.00
0.13
Inferred
2.17
5.93
12.87
0.41
Total
2.81
6.03
16.92
0.54
Serra Grande open pit
Measured
0.77
3.56
2.73
0.09
Indicated
0.64
3.01
1.92
0.06
Inferred
0.71
2.87
2.05
0.07
Total
2.12
3.16
6.70
0.22
Serra Grande total stockpiles
Measured
0.02
1.70

0.04
0.00
Indicated
–
–
–
–
Inferred
–
–
–
–
Total
0.02
1.70
0.04
0.00
Serra Grande
Total
27.21
4.19
113.90
3.66
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SERRA GRANDE
Estimation
The grades estimation is performed by ordinary kriging using DD, RC and channel samples from the Serra Grande database.
All search distance are based on variographic studies for each orebody/structure. Classification is done through a combination
of conditional simulation and sample spacing studies.
Serra Grande
Grade tonnage curve surface (metric) (attributable)
Tonnes above
cut-off (millions)
Average grade above
cut-off (g/t
)
2.50
2.00
1.50
1.00
0.50
0.00
16
14
12
10
8
6
4
2
0
1
4
5
3
6
8
9
10
2
7
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Serra Grande
Grade tonnage curve underground (metric) (attributable)
Tonnes above
cut-off (millions)
Average grade above cut-off (g/t
)
28

24
20
16
12
8
4
0
16
14
12
10
8
6
4
0
1
3
4
6
7
8
10
9
2
5
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Exclusive Mineral Resource
Serra Grande
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Measured
2.90
3.82
11.08
0.36
Indicated
2.73
4.36
11.92
0.38
Inferred
14.37

	4.21	60.54	1.95	
Total	20.00	4.18	83.55	2.69

The exclusive Mineral Resource can be divided into three categories as well as the following (the Cajueiro deposit, which is located 10km from the Serra Grande site):

- Inferred Mineral Resource within the operating mines, partially upgraded through infill drilling based on the production plan
- that portion of the Mineral Resource that is not currently economically feasible
- that portion of the Mineral Resource that requires economic studies

Mineral Resource below infrastructure

Serra Grande				
Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	0.02	8.70	0.14	0.00
Indicated	0.81	6.38	5.17	0.17
Inferred	8.96	4.53	40.57	1.30
Total	9.79	4.69	45.88	1.47

The total Inferred Mineral Resource is considered below infrastructure. In addition, some Indicated and Measured Mineral Resource from certain of the orebodies, such as Inga, are also considered below infrastructure.

Ounces (millions)
4.0
3.5
3.0
2.5
2.0
0.00
0.00
0.00
0.00
-0.19
-0.01
0.04
0.01
0.26
3.55
3.66
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Serra Grande year-on-year changes in Mineral Resource
Total (attributable)
Overall an increase in Mineral Resource with the depletion more than offset by additions due to successful exploration outcomes in
Inga and Mina III as well as minor model changes.

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SERRA GRANDE
Ore Reserve
Ore Reserve
Serra Grande
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Mina Nova
Proved
0.36
2.42
0.86
0.03
Probable
0.36
2.34
0.84
0.03
Total
0.71
2.38
1.70
0.05
Mina III
Proved
0.56
2.73
1.52
0.05
Probable
0.36
3.63
1.32
0.04
Total
0.92
3.08
2.85
0.09
Palmeiras
Proved
0.06
3.30

0.19
0.01
Probable
0.03
2.93
0.10
0.00
Total
0.09
3.16
0.29
0.01
Pequizao
Proved
0.26
3.00
0.77
0.02
Probable
0.39
2.44
0.96
0.03
Total
0.65
2.66
1.74
0.06
MSG Inga
Proved
–
–
–
–
Probable
0.33
4.87
1.63
0.05
Total
0.33
4.87
1.63
0.05
Open pit
Proved
0.43
2.98
1.29
0.04
Probable

0.29
2.59
0.75
0.02
Total
0.72
2.82
2.04
0.07
Total stockpiles
Proved
0.02
1.70
0.04
0.00
Probable
–
–
–
–
Total
0.02
1.70
0.04
0.00
Serra Grande
Total
3.46
2.97
10.28
0.33
Estimation
Serra Grande Ore Reserve is estimated using the Mineral Resource and the application of modifying factors based on historic
performance. 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.
The Mineral Resource at Serra Grande is relatively
insensitive to changes in gold price. The change
in Mineral Resource ounces between the
US$1,200/oz and US$1,400/oz is within 5% of
the 2017 Mineral Resource.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces

Grade
8
6
4
2
0
-2
-4
Serra Grande
Inclusive Mineral Resource sensitivity

The main modifying factors can be divided into economic and operational.
Economic modifying factors are the gold price, exchange rate (BRL/US$) and the cost matrix of the operation that is based on the
previous years production performance. These are then used to define the cut-off grades that are listed in the economic evaluation
of each mineable block.
Operational factors are based in historical data and usually defined by performance in the previous year. Among the most important
factors are minimum mining width, operational dilution, MRF, MCF and MetRF. Operational factors are used to design Ore Reserve
solids or applied directly in the solid evaluation to estimate the Ore Reserve of each stope.
MRF and operational dilution used in the determining of the Ore Reserve are mining method specific.
Inferred Mineral Resource in business plan
No Inferred Mineral Resource was included in the Ore Reserve.
Ore Reserve below infrastructure

Serra Grande

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Proved	0.24	2.81	0.68	0.02
Probable	0.96	3.70	3.56	0.11
Total	1.20	3.52	4.24	0.14

Ounces
(millions)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.00
0.00

0.00
0.00
0.33
-0.15
-0.14
-0.05
0.10
0.11
-0.01
0.48
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017
Serra Grande year-on-year changes in Ore Reserve
Total (attributable)
Year-on-year there is a decrease in the Ore Reserve. The main changes were due to the update of economic parameters (exchange
rate and unit costs) and depletion.
Ore Reserve modifying factors
Serra Grande
as at 31 December 2017
Gold price
BRL/oz
Cut-off
grade
g/t Au
Stoping
width
cm
Dilution
%
Dilution
g/t
MRF
% (based
on tonnes)
MCF
%
MetRF
%
Mina Nova

3,573
1.80
180.0
15.0
0.03
86.0
95.0
90.3
Mina III
3,573
1.80
180.0
15.0
0.03
86.0
95.0
92.5
Palmeiras
3,573
1.80
180.0
15.0
0.03
86.0
95.0
92.7
Palmeiras Sul
3,573
1.80
180.0
15.0
0.03
86.0
95.0
0.0
Pequizao
3,573
1.80
180.0
15.0
0.03
86.0
95.0
91.4
Inga
3,573
1.80
180.0
15.0
0.03
86.0

95.0
95.3
Open pit
3,573
1.12
180.0
10.0
0.03
90.0
95.0
91.9
Total stockpiles
3,573
0.66
–
–
–
–
–
86.5
Mining recovery and dilution are expressed as the average each mine method value. Plant recovery depends upon a fixed tailing grade of 0.23g/t
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COLOMBIA

COLOMBIA

Nuevo Chaquiro

200km
Ibagué
Cali
Quibdó
Medellin
Bogotá

Projects
1 Gramalote (51%)
2 Quebradona (93.505%)
3 La Colosa

1
2
3

0
200km

Inclusive Mineral Resource

Colombia	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2017				
Category	**million**	**g/t**	**tonnes**	**Moz**
Measured	–	–	–	–
Indicated	1,021.66	0.84	854.32	27.47
Inferred	753.32	0.40	298.46	9.60
Total	1,774.98	0.65	1,152.78	37.06

Colombia	**Tonnes**	**Grade**	**Contained copper**	
as at 31 December 2016				
Category	**million**	**%Cu**	**tonnes million**	**pounds million**
Measured	–	–	–	–
Indicated	105.25	1.08	1.14	2,508
Inferred	471.60	0.53	2.49	5,492
Total	576.85	0.63	3.63	8,000

Exclusive Mineral Resource

Colombia	**Tonnes**	**Grade**	**Contained gold**	
as at 31 December 2017				
Category	**million**	**g/t**	**tonnes**	**Moz**
Measured	–	–	–	–
Indicated	958.02	0.83	799.69	25.71
Inferred				

753.32
0.40
298.46
9.60
Total
1,711.35
0.64
1,098.15
35.31
Ore Reserve
Colombia
Tonnes
Grade
Contained gold
as at 31 December 2017
Category
million
g/t
tonnes
Moz
Proved
–
–
–
–
Probable
63.71
0.86
54.67
1.76
Total
63.71
0.86
54.67
1.76
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GRAMALOTE

Introduction

Property description

The Gramalote project, located in Colombia, is a JV project between AngloGold Ashanti and Gold, holding respectively 51% and 49%.

Location

The Gramalote property is located near the town of Providencia and San Jose del Nus within the municipality of San Roque, north-west of the Department of Antioquia, Colombia. It is approximately 230km north-west of the Colombian capital of Bogota and 124km north-east of Medellin which is the regional capital of Antioquia Department.

History

There is a long history of small scale gold mining in the area with mining within the Gramalote property likely dating back to before the 16th century and continuing today.

Gramalote itself has had small scale artisanal mining for several decades prior to exploration work and mineral discovery by AngloGold Ashanti. Drilling commenced in 2006. In 2010, AngloGold Ashanti became the operator with a 51% share. Sufficient work has been completed to enable a PFS to be generated in late 2013. Based upon continued growth of the Mineral Resource, significant processing opportunities generated by the project team, and ongoing capital and operating cost optimisations, an update of the original PFS was completed in 2017.

Legal aspects and tenure

The project area consists of six contiguous claim blocks totalling 27,595ha. The claims presently include five registered concession contracts totalling 25,303ha and one exploration licences of 2,292ha. Three applications of 11,845ha have been requested and are being reviewed by the mining authorities.

The concession contracts 14292, 6195, 6194, 6386B, 6189, and the exploration licence 4894 are registered under the name of Gramalote Colombia Ltd in the National Mining Registry.

By Resolution No. 040497 of 2 May 2012, the Governors Office of Antioquia approved the combined works plan and the integration of the mining titles (6194B, 2042, 14292, 6263, 6185B, 6054, 6032, ICQ\u20100800631X, 7153, 5917 and IFC\u201008021) with all of them grouped in the Sole Mining Concession Agreement (Licence No. 14292). As a result, the company developing the exploration and exploitation project in a single mining title that covers all the areas previously covered by the aforementioned titles.

In 2016, the project has received its environmental impact assessment and construction/permits to operate for the principal mining title (14292). In accordance with the exploration Licence 4894, the mining authority has already authorised such concession agreement through Resolution 2016060072784 dated 11 August 2016. To date, the mining authority is preparing the draft concession agreement for signing and finalisation through registration in the National Mining Registry, once signed by the grantor and concession holder.

Colombian mining law concerning duration of tenure states that the exploration phase begins as soon as the concession contract is registered in the National Mining Registry. The total period for the concession contract (exploration, installation and construction, and exploitation) is 30 years, which may be renewed for an additional 20-year period. Under Colombian mining law, producing mines are subject to a federal royalty of 4% of the gross value of gold and silver production.

Mining method

Gramalote is a semi-massive, surface low-grade gold deposit including three main deposits (Gramalote Central, Monjas West and Trinidad).

The PFS concluded that the project is suitable to be operated as a conventional open pit methods, employing 520t class shovels and 228t trucks, with a strip ratio of 2.51 and an average mining rate of 47Mtpa (max 60Mtpa). The LOM is estimated at 14 years (plus one year of pre-stripping).

Operational infrastructure

Currently the project has only field infrastructure that supports exploration and PFS studies. Key infrastructure planned include, TSF, waste rock facility, site water management, including a major creek diversion, roads and bridges, the central workshop, offices and camp, as well as the metallurgical plant.

Mineral processing
The project studies continue but the following metallurgical plan was the result of the PFS: processing will be by two parallel grinding lines, one treating 11.3Mtpa of sulphide ore and the other 4.1Mtpa of oxide ore, switching to sulphide once the oxide is exhausted.
Gold recovery process: semi-autogenous milling circuit/flotation/leaching of concentrate in two separate circuit for sulphide and oxide treatment.
Conventional tailings deposition with a sand dam.
Risks
The low grade Inferred Mineral Resource is by definition a low confidence, high risk part of the Mineral Resource due to the broad drill spacing. As a risk mitigation action, during the FS, grade control test blocks will be drilled to confirm short scale continuity, mineralisation geometry and geological contacts.
Poor digitising practices of the 11 original licences that make up the main mining licence concession (14292), have created slithers of open ground that cross the Gramalote deposit, these have been claimed by a third party (Zonte Metals). While AngloGold Ashanti believe that Zonte does not have a valid claim, Zonte is proceeding with legal action against the Secretaria de Minas (Secretary of Mines) for the Department of Antioquia, Colombia, for not titling an exploration application for the open ground.
A number of Ore Reserve risks have been recognised, all of which have detailed risk mitigation strategies around them, including the management of the 605 artisanal miners who have been identified within the project footprint and the successful physical resettlement of 136 houses and 127 agricultural units.
An independent external Mineral Resource and Ore Reserve audit was undertaken in 2017 and found no fatal flaws in process or output.
San José
del Nus
Monjas
Gramalote
Trinidad
Cristales
Providencia
ML 14292
4894
4894
LJC-08012
to San Roque
4894
1
0
1
2km
Mining Lease area
ML14292
ML6194
ML6195
ML6386B
ML6189
Planned plant centroid
co-ordinates
75°00’00”W, 06°30’00”N
Licences

Planned mine infrastructure
Roads
Settlements
Mining
Exploration licence
Pits
Plant
Tailling
Villages
Main
Secondary
Waste rock facility
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Competent Persons

Gramalote
Professional
Membership
Relevant
Category
Competent Person
organisation
number
experience
Qualification

Mineral Resource
Claudio Devaux
MAusIMM
315 689
31 years
BSc Hons (Geology)
Ore Reserve
Marcelo Roldan
MAusIMM
324 958
21 years
BSc (Hons) Mining Engineering

Geology

Deposit type

Gramalote is a pluton-related, mesothermal gold deposit genetically related to the host intrusion. The alteration and mineralisation is structurally controlled, restricted to small haloes along veins, sheeted veins and stockworks arrays. The sulphides content is less than 5%. Some evidence indicates that the host rock is directly related to fluids evolved from the cooling pluton, including pegmatite, aplite and K-feldspar alteration.

Mineralisation style

The alteration occurs as both broad zones and narrow selvedges around veins. Vein selvedges range from a few millimetres up to 10cm. The intensity of the alteration is directly related to both the density of veins and veinlets, and their size. The wider the vein, the wider the alteration selvage, ranging from a few millimetres around isolated veinlets to tens of centimetres around thick veins.
In zones of stockwork or where several veins are close enough to merge their selvages, the alteration halo is wider. The potassic alteration event is associated with Type I and Type II veins. It is characterised by a selvage of K-feldspar with disseminated pyrite.
It is common to find quartz veinlet stockworks with pervasive K-feldspar which correspond with the alteration selvage of wider quartz veins. This selvage can reach several centimetres from the quartz vein and its Au grade is in general low (<200 ppm Au).
The white-mica event is characterised by a less pervasive distribution than the potassic event. It is restricted to selvages of few centimetres wide around the type III veins (Quartz-calcite – white mica pyrite chalcopyrite) veinlets, is not associated with wide veins,

and it does not carry high grades of Au. It is observed at outcrop scale as white coloured areas retaining original texture of the granitic rock. Mineralogical changes in the host rock associated to this event vary from plagioclase and K-feldspar alteration to very fine white mica.

Mineralisation is closely linked to alteration and, like alteration, is structurally controlled. The mineralisation is vein hosted, either in sheeted veins or in local stockworks. Three stages are identified and associated with vein and alteration types:

- Quartz-calcite-pyrite is an assemblage of fine grained quartz and calcite with very fine grained pyrite. This vein type generally does not host gold
- Quartz-pyrite-chalcopyrite-gold is the most important gold host typically associated with K-feldspar (potassic) selvedge, (the gold occurs in fractures in pyrite along with chalcopyrite)
- Quartz-calcite-white mica is commonly barren but can show moderate gold grades (up to 20g/t) and the veins are typically identified through the selvedge of white mica

Mineralisation characteristics

Gramalote is considered to be an intrusive-hosted structurally controlled stockwork gold and silver deposit. 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. Gold mineralisation is associated with three overprinting texture destructive alteration assemblages including potassic, quartz-sericite and sericite carbonate. Within these alteration zones, anomalous gold mineralisation is associated with three specific types of stockwork quartz veining. These include quartz veinlets with fine-grained pyrite, quartz-carbonate veinlets and quartz veinlets with granular pyrite.

The saprolite (oxide) and saprock (transition) portions of the deposit represent a small percentage of the mineralisation. Saprolite thickness is variable from 5m to 30m with an average thickness of 15m.

Petrographic work indicates the gold occurs as five to 20 micron sized particles associated with fractures and inclusions within pyrite and cavities associated with sulphosalts (aikinite $PbCuBiS_3$, matildite $AgBiS_2$) and tellurides (hessite (Ag_2Te). The silver to gold ratio is approximately 1:1.

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GRAMALOTE
Saprolite
Tonalite
Quartz-diorite
High grade ore zone
Medium grade ore zone
Vein
Diorite Dyke
Acid Dyke
Pit outline
300m
300m
NW
SE
600m
900m
Elevation
NW-SE Geological cross-section through Gramalote Central pit

Exploration

Exploration by AngloGold Ashanti between 2003 and 2007 comprised both regional exploration programmes as well as DD in the main Gramalote Central area. Surface mapping, rock and soil sampling identified an exploration target extending over an area of more than 1km centered about Gramalote Ridge. Mineralisation is contained within numerous tens-of-metre sized, structurally-
2
related corridors which commonly contain mineralisation exceeding 1g/t gold.

In 2008, the focus of B2Golds exploration programme was the DD campaign in the main Gramalote Central area. Additional regional exploration programmes involving infill soil geochemistry and surface trenching, and mapping and sampling, were carried out on several targets adjacent to Gramalote ridge.

In the second half of 2010, technical study and exploration work recommenced at the Gramalote project with exploration, infill drilling and metallurgical test sample drilling and preliminary engineering investigations. Highlights from the 2011 and 2012 technical study and exploration work to date on the Gramalote property include positive metallurgical test results showing in excess of 90% recovery and encouraging drill results from Gramalote Central and outside targets indicating the potential for a larger Mineral Resource. A total of 104,129m of DD have been completed in 529 holes since AngloGold Ashanti became operator in October 2010.

Exploration drilling has been carried out on six drill targets located within 4km of the current Gramalote Central Mineral Resource including Monjas West, Trinidad, Topacio, Monjas East, La Maria and Limn with the aim to add new Inferred Mineral Resource.

All of these targets have similar geological, alteration and mineralisation characteristics to Gramalote Central. A total of 45,118m

in 132 drillholes have been completed on the six satellite targets since October 2010. Results to date clearly indicate the upside
potential for more gold mineralisation on the large Gramalote property.

Positive gold intersections have been returned in Monjas West and Trinidad, located 2km west southwest along strike and 3km
north-north-west respectively of Gramalote Central Mineral Resource, becoming two additional economical deposits.

In La Maria, located approximately 2.5km to the east of Gramalote Central, a Mineral Resource of about 260k ounces gold was
drilled but as it is part of the co-existence model, it is not included in the Gramalote Project Mineral Resource estimation.

The co-existence programme aims to define a small underground Mineral Resource option for the artisanal miners who must
be relocated outside the Gramalote project area of influence before the mining activities commence.

A total of 3,489m of drilling in 211 drillholes have been completed in the saprolite (oxide ore) profile at Gramalote Central in 2015-
2016. The objective of this drilling programme was to improve the definition of the low grade saprolite Mineral Resource. As a result,
the grade of the saprolite ore has been confirmed and the risk associated to the low core recovery was reduced.
Over 2012 and 2013, 15 drillholes totalling 3,954m for metallurgical testing and 13 geotechnical drillholes (5,125m) were drilled
around the three deposits that comprise the Gramalote project.
A total of 11,380m of sterilisation drilling have been carried out from 2012 to 2017 with the intention of confirming the absence of
potential mineralisation in areas where key infrastructure is located. Key locations sterilised are the tailing dam, waste dumps and
La Maria and San Antonio Plant site locations. No significant mineralisation was identified in these areas.
In addition to this, an extensive RC drilling campaign was conducted to validate the UC estimation technique. About 5,650m of
RC drilling were done on the Gramalote hill (75 holes drilled at an average depth of ~70m). The drilling was done in two special
platforms of about 100m x 100m each, on a drilling pattern of 12.5m x 12.5m (spacing simulates a grade control block that might
be used during the mine operation). The results proved there is no issue with ore grade continuity in the high grade domain.

Projects

A successful PFS was completed in 2017, which has supported the reporting of a maiden Ore Reserve. A SAMREC Table 1 has
been compiled and can be found on the company website.

Mineral Resource

Details of average drillhole spacing and type in relation to Mineral Resource classification

Gramalote

Type of drilling

Category

Spacing m (-x-)

Diamond

RC

Blasthole

Channel

Other

Comments

Measured
–
–
–
–
–
–

Indicated
50 x 50
–
–
–
–
–

Inferred
100 x 100
–
–
–
–
–
Grade/ore control
13 x 13
–
–
–
–
–
The classification of the Mineral Resource was done by the 15% error with 90% confidence rule using conditional simulation.
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GRAMALOTE
Inclusive Mineral Resource

Gramalote	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Gramalote Central (oxide)	Measured	–	–	–	–
	Indicated	3.49	0.60	2.10	0.07
	Inferred	6.61	0.55	3.62	0.12
	Total	10.09	0.57	5.71	0.18
Trinidad (oxide)	Measured	–	–	–	–
	Indicated	–	–	–	–
	Inferred	9.17	0.55	5.01	0.16

Total
9.17
0.55
5.01
0.16
Monjas West (oxide)
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
2.73
0.51
1.39
0.04
Total
2.73
0.51
1.39
0.04
Gramalote Central (sulphide)
Measured
–
–
–
–
Indicated
79.43
0.76
60.27
1.94
Inferred
16.17
0.58
9.31
0.30
Total
95.60
0.73
69.58
2.24
Trinidad (sulphide)
Measured
–
–

–
–
Indicated
–
–
–
–
Inferred
17.91
0.41
7.42
0.24
Total
17.91
0.41
7.42
0.24
Monjas West (sulphide)
Measured
–
–
–
–
Indicated
–
–
–
–
Inferred
11.24
0.57
6.45
0.21
Total
11.24
0.57
6.45
0.21
Gramalote
Total
146.75
0.65
95.56
3.07
Estimation
At Gramalote, results from about 145,000m of drilling (87,900m at Gramalote Central and 11,250m at the Trinidad area and
17,850m 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. A geostatistical technique, LUC was used to estimate block grades and quantify the effect of selective mining.

Gramalote
Grade tonnage curve surface (metric) (attributable)
Tonnes above
cut-off (millions)
Average grade above
cut-off (g/t
)
450
400
350
300
250
200
150
100
50
0
2.75
2.50
2.00
1.75
1.50
1.00
0.75
0.50
0.25
0.00
0
0.25
0.75
1.00
1.50
1.75
2.00
0.50
1.25
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Exclusive Mineral Resource
Gramalote
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Measured

–
–
–
–
Indicated
19.28
0.40
7.73
0.25
Inferred
63.84
0.52
33.20
1.07
Total
83.12
0.49
40.93
1.32
Ounces
(millions)
5
4
3
2
1
0
0.00
0.00
0.00
0.00
0.00
0.00
-1.49
0.01
1.07
3.47
3.07
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Gramalote year-on-year changes in Mineral Resource

Total (attributable)

Year-on-year the Mineral Resource has decreased due to:

- the cut-off: cut-off grade changing from 0.10g/t to 0.17g/t for sulphides and to 0.13g/t for oxides
- a number of changes to the geological model including a re-interpretation of the wireframes, specifically for the saprolite

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GRAMALOTE
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
15
10
5
0
-5
-10
-15
Gramalote
Inclusive Mineral Resource sensitivity
Ore Reserve
Ore Reserve
Gramalote
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
Gramalote Central (oxide)
Proved
–
–
–
–
Probable
2.96
0.68
2.00
0.06
Total
2.96
0.68
2.00
0.06
Gramalote Central (sulphide)
Proved
–

–
–
–
Probable
60.74
0.87
52.67
1.69
Total
60.74
0.87
52.67
1.69
Gramalote
Total
63.71
0.86
54.67
1.76
Only Gramalote Central is being considered for the Ore Reserve Statement.
Estimation
The Gramalote pit was designed based on a Whittle optimisation this included all haul roads, waste dumps and pit. The design was
scheduled and financial modelled to obtain the Ore Reserve. These have been a part of the PFS.
Ore Reserve Modifying Factors
Gramalote
as at 31 December 2017
Gold price
US$/oz
Cut-off
grade
g/t Au
RMF
% (based
on tonnes)
RMF
% (based
on g/t)
MRF
% (based
on tonnes)
MRF
% (based
on g/t)
MCF
%
MetRF
%
Central (oxide)
1,100
0.16

100.0
100.0
100.00
100.0
100.0
83.9
Central (sulphide)
1,100
0.22
100.0
100.0
100.00
100.0
100.0
95.0
Dilution is built into Mineral Resource models for Gramalote. The only modifying factor used is processing recovery for oxides
(83.9%) and fresh ores (95%).
As a low grade deposit Gramalote is sensitive to
changes in gold price.

Inferred Mineral Resource in Business Plan

Gramalote as at 31 December 2017	Tonnes million	Grade g/t	Contained gold tonnes	Moz
Gramalote (oxide)	3.79	0.63	2.39	0.08
Gramalote (sulphide)	5.58	0.62	3.47	0.11
Total	9.37	0.63	5.86	0.19

A small portion of Inferred Mineral Resource are within the business plan but are not considered material. The financial estimation for
the Ore Reserve excluded this material.

Ounces
(millions)
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
1.76
1.76
2016

Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Revenue factor
Acquisition/
disposal
2017

Gramalote year-on-year changes in Ore Reserve

Total (attributable)

As a first time declaration of an Ore Reserve there are no previous number to compare.

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LA COLOSA

Introduction

Property description

The exploration project is wholly owned by AngloGold Ashanti. It is currently on hold and *force majeure* has been declared.

Location

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.

History

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 continue.

Legal aspects and tenure

La Colosa's exploration permits were consolidated during the year, with La Colosa now comprising of only one exploration permits namely EIG-163 comprising 9,210.11ha, which is in the first year of exploration (integration of EIG-163, EIG-166, EIG-167, GLN-09261X, HEB-169 and GGF-151).

Mining method

The project is still under development and a number of options were being investigated before *force majeure* was declared.

Operational infrastructure

Currently the project has a field infrastructure that supports access to the Mineral Resource with roads, accommodation, office and surface infrastructure for pre-logging and organisation of the drilling core, complementary to that there is a core shed facility in the city of Ibague where geological and geometallurgical logging are performed. However, all work has stopped.

Mineral processing

The project is currently at an early stage and the flotation of the sulphide ore is being considered.

Risks

The La Colosa project is currently at an early stage and has identified a number of possible technical options all of which are capital intensive. The political risks associated with the mining industry in Colombia specifically in the Tolima department must also be considered. The delineation of the Los Nevados Paramo by Resolution 1987 is considered a risk to the Mineral Resource and is currently being contested. 13.99Moz of Mineral Resource is potentially at risk. The granting of environmental permits for site operations hampered progress. This is the reason that *force majeure* was accepted by the government.

Competent Persons
La Colosa
Professional
Membership
Relevant
Category
Competent Person
organisation
number
experience
Qualification
Mineral Resource
Rudolf Jahoda
MAusIMM
990 544
26 years
MSc (Mining Geology)
PhD (Geology)
Geology
Deposit type
Preliminary studies on the mineralogy, fluid inclusion assemblages and geochemistry indicate that a younger hydrothermal event
overprints the previous porphyry-style mineralisation event. These younger veinlets consist of quartz (colloform-crustiform texture)
together with adularia and gold with narrow alteration halos of illite, sericite and carbonates. A distinct temperature-salinity
environment marks this high grade ore zone (>2g/t gold average), which is spatially and genetically controlled by a north-trending
corridor of tension gashes, crossing the magmatic complex and extending towards the metamorphic rocks in the northern areas.
Mineralisation style
The La Colosa project is centered on a late Miocene (8.1Ma) multiphase diorite porphyry gold complex intruded into reduced
Paleozoic meta-sedimentary rocks. Although the porphyry system is generally copper-poor, a 0.1% to 0.2% Cu anomaly associated
with Mo>150ppm occurs laterally and at depth. The highest grade gold mineralisation is closely associated with a suite of early
porphyry intrusions/breccias with potassic and sodic-calcic alteration, high intensity of 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.
Tunnel de La Linea
exclusion zone
0
1
2

3km
to C
ala
rca
EIG-163
Cajamaca
La Colosa village
co-ordinates
75°29'39"W, 4°26'50"N
Licences
Roads
Settlements
Mining
Villages
Main
Secondary
251
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CONTINUED
LA COLOSA

Previous extension drilling has better defined the porphyry contacts and high-grade mineralisation along structural corridors.

Additional upside for mineralisation occurs to the north-west of the porphyry (sub) epithermal targets and at depth.

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.

Mineralisation characteristics

Three types of porphyry-style hydrothermal alteration are associated with magmatic activity:

- Potassic alteration (mainly secondary biotite), which occurs as pervasive replacement of ferromagnesian minerals and matrix in the early and intermineral phase rocks
- Sodic-calcic alteration (albite, actinolite and epidote), which is confined to cm-scale patches in the early and intermineral stage rocks
- Propylitic alteration (chlorite, epidote, albite and carbonates) within the late magmatic stage. Multiphase silicification occurs within the schistose metamorphic rocks. Six major types of veinlets have been identified at the La Colosa project area. The veinlets occur in the magmatic rocks as well as in the metamorphic rocks. The veinlet sequence is (from oldest to youngest): EB-type, A-type, M-type, S-type, D-type, and CC-type

W-E Geological cross-section through La Colosa

Early magma
ocks
Intermineral magma c rocks
Late magma
Schistose wallrock
Pyroc
fall deposits
Envelope 0.5 g/t Au
N-
trending extensional faults
La
Colosa
Fault
Ns1 F
ault
La
C
e
ja
F
au
lt
2,250m

3,000m
W
E
750 m
493900
mN
ore zone
0.5g/t au
,1.5g/t au
,2.0g/t au

Inclusive Mineral Resource

La Colosa	Category	Tonnes million	Grade g/t	Contained gold tonnes	Contained gold Moz
as at 31 December 2017					
La Colosa open pit	Measured	–	–	–	–
	Indicated	833.49	0.87	726.31	23.35
	Inferred	217.89	0.71	154.86	4.98
La Colosa	Total	1 051.38	0.84	881.17	28.33

Estimation
Main change respect 2016 model is a new interpretation of the oxide transition model using hyperspectral data interpretation.
At La Colosa, some 148,062m of drilling supported the estimation of an Indicated Mineral Resource. Gold grades were estimated using ordinary kriging, which 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 drillholes, surface sampling and mapping information was validated for use in the modelling process. The La Colosa Mineral Resource is reported at a cut-off grade of 0.35g/t. The mineralisation has been classified on the basis of kriging variance related to drill spacing.

Exploration

A total of 148,062m has been drilled to date with the year-on-year increase related to mineralisation found in the north-west extension of high-grade mineralisation. Three additional compliance drillholes (800m) and one geotechnical-hydrogeology drillhole was completed in 2017 before activities were suspending in early 2017.

Geometallurgical studies related to comminution modelling focused on obtaining hardness parameters are advancing. Additional metallurgical comminution tests have been carried out for poorly represented areas. This metallurgical data has been correlated with multi-element assay and spectral mineralogical data to obtain proxies for metallurgical parameters. 43,529.05m (153 holes) have been scanned using a sisuMobi system equipped with a RGB camera and a shortwave infrared camera.

Projects

All project work has been stopped and the company applied for *force majeure* which was granted by the government on the basis that environmental permits were unduly delayed as was permission to work in the area around the La Linea tunnel.

Mineral Resource

Details of average drillhole 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	–	–	–	–	–	
Inferred	100 x 100	–	–	–	–	–	
Grade/ore control	–	–	–	–	–	–	

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 a drill spacing of 75m x 75m.

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LA COLOSA
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
6
4
2
0
-2
-4
-6
La Colosa
Inclusive Mineral Resource sensitivity
La Colosa is a high volume, low grade mineral
occurrence. The Mineral Resource is insensitive
to gold price.
La Colosa
Grade tonnage curve surface (metric) (attributable)
Tonnes above
cut-off (millions)
A
verage grade above cut-off (g/t
)
1,750
1,500
1,250
1,000
750
500
250
0
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.0
0.1
0.3
0.5

0.6
0.7
0.4
0.9
1.0
1.1
1.2
0.2
0.8
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Ounces
(millions)
29.00
28.75
28.50
28.25
28.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
-0.13
28.46
28.33
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
La Colosa year-on-year changes in Mineral Resource
Total (attributable)
Year-on-year there was a minor change due to remodelling of the transitional boundary.
Exclusive Mineral Resource
The La Colosa project currently does not have any declared Ore Reserve and the exclusive and inclusive Mineral Resource numbers
are therefore identical.

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QUEBRADONA

Introduction

Property description

Quebradona is a project having completed a conceptual study and starting a PFS. It is a JV between AngloGold Ashani (93.505%) and B2Gold (6.495%). Five main targets have been identified, namely Nuevo Chaquiro, Aurora, Tenedor, Isabela and La Sola. Nuevo Chaquiro is the most advanced of the targets.

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 2011.

Location

The Quebradona project is situated in the Middle Cuca region of Colombia, in the Department of Antioquia, 60km south-west of Medellin.

History

Exploration was carried out from 2004 by AngloGold Ashanti and then from 2006 to 2009 by B2Gold. In 2010 AngloGold Ashanti took management control and focused its exploration effort on Nuevo Chaquiro. In 2014 a maiden Mineral Resource was published for Nuevo Chaquiro and a conceptual study was initiated. The conceptual study was successfully completed on 30 September 2016 and the project is currently in PFS, targeting 2019 for completion.

Legal aspects and tenure

Quebradona comprises one tenement (5881). It is the result of integration of the five original tenements (5869, 6318, 6359, 7579 and 5881). Integrated tenement 5881 was issued on the 9 December 2016 and totals 7,593ha.

Mining method

No current mining activities. Several mining configuration options were studied during the conceptual study. Mining methods preferred are sublevel or/and block caving with ore access being by tunnel. Mining rate will be between 5Mtpa to 6Mtpa ore.

Operational infrastructure

The conceptual study indicates that the overall project layout and configuration will have nearly all activity in the lower areas of the project off the mountain. Included here will be the primary mine access tunnel (which will serve as ore conveyance as well), processing plant, tailings dam and associated facilities. The upper area includes the orebody and will maintain only auxiliary access, ventilation, and minor support structure for the mine.

Mineral processing

Metallurgical test work is in progress. From the conceptual study, plant operations will utilise standard copper-gold flotation and recovery via filtration of a concentrate. Plant throughput will be 5Mtpa of ore generating approximately 204ktpa of concentrate. Concentrate will be transported by a combination of truck and rail to a seaport where concentrate will be bulk loaded for transportation to a smelter facility. Concentrate quality will be good and present no unusual commercial challenges for sales.

Risks

No significant risks identified. Geological risk is considered low, with the PFS under consideration having approximately 78% of the Mineral Resource classified as Indicated Mineral Resource and the variability in copper grade being low, with high continuity. Security risk is considered low. Nuevo Chaquiro has a moderate seismic risk.

Competent Persons

Quebradona
Professional
Membership

Relevant
Category
Competent Person
organisation
number
experience
Qualification
Mineral Resource
Pablo Noriega
MAusIMM
315 688
18 years
BSc Hons (Geology)
255
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QUEBRADONA
Jerico
Corregimiento de Palermo
0
1
2
3km
QEF-11131
5881
LHJ-15051
LHJ-15053X
Licences
Roads
Settlements
Exploration
Exploration application
Villages
Helipad
Secondary
Helipad co-ordinates
75°44’51”W, 5°45’50”N
Geology
The geology of Nuevo Chaquiro consists of a volcanoclastic sequence of Miocene age (ash, tuffs, agglomerates and andesites) intruded by small dykes of diorite and quartz diorite, also of Miocene age. This host rocks are intruded by different pulses of diorites and main proportion by quartz diorites of fine – medium grained, the most part of these rocks don’t come out to surface. These intrusive rocks are categorised in pre-mineral, early, intra-mineral and late, according to cut relations, temporality and copper-gold values. The alteration develops a well zoned porphyry system type with alteration of different temperatures from propylitic, sericitic, chloritic, potassic and calcic-potassic assemblages. Higher grade cooper gold mineralisation (>0.6% Cu) is associated with a well-developed quartz vein stockwork in the cupola zone of early quartz diorite, persisting over a vertical interval of 500m.
Deposit type
Nuevo Chaquiro is a typical porphyry copper deposit with large tonnes and low grade with gold, molybdenum and silver by-products.
The structural setting facilitated the rise of intrusive bodies through the volcaniclastic sequence of the Combia formation.
The intrusives did not reach surface and remain as a blind deposit despite erosion acting for a significant period.
Mineralisation style
The Nuevo Chaquiro deposit consists of Miocene-aged diorite, quartz diorite dykes and thin vertical stocks intruding a thick succession of andesitic tuffs and volcaniclastic rocks of the Miocene-aged (6-10Ma) belonging to 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 150 to 400m from NE to SW. Typical copper porphyry alteration zonation is evident with a high temperature, potassium
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.

Mineralisation characteristics

The intrusive complex can be categorised as premineral, early, intramineral and late, according to cross-cutting relationships, locality relations, temporality and copper-gold values. The early dyke is located in the eastern part of the deposit and is the main supplier of heat and hydrothermal fluids that caused the mineralisation event, in the central area abundant intra-mineral diorite and quartz diorites are found, of which a classic ore shell of lower-grade mineralisation (>0.3%Cu) appears draped over the intrusions. Higher grade copper-gold mineralisation (>1.4% Cu) is associated with a well-developed quartz vein stock-work in the cupola zone of early quartz diorite, persisting over a vertical interval of 500m. The majority of the intrusive rocks do not outcrop.

The mineralised zone is characterised by fine stock works, disseminations and veinlets of quartz, magnetite, pyrite, chalcopyrite and molybdenite.

Traces of bornite and cubanite have been locally observed but in amounts not exceeding 0.1% volume. Other sulphides include pyrite and amounts of pyrrhotite in specific area. Gold and silver correlate well with copper and many but, by no means, all gold grains occur on the margins of sulphide grains within the chalcopyrite. This was confirmed in the metallurgical test programme that finished in 2016.

AMERICAS
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QUEBRADONA
2100m
1900m
1700m
1500m
1300m
1100m
900m
Elevation
SW
NE
100m
700m
2,100m
1,900m
1,700m
1,500m
1,300m
1,100m
900m
Early Quartz Diorite
Premineral Quartz Diorite
Intramineral Quartz Diorite
Tu
100m
700m
Cu ore zone
Cu
SW-NE Geological cross-section through Neuvo Chaquiro

Exploration

During 2017 the project was focused on collecting metallurgical, hydrogeology and geotechnical data for the PFS. This work was completed in May 2017 with Piezometer installation, Lugeon tests and seven Gauging stations (transducers) installations being the most significant activities.

From an exploration perspective the geological and estimation models were not updated due to the fact that no new holes were drilled and sampled. However an update of the structural model was completed, focusing on the infrastructure location sites and limited ground reconnaissance and mapping took place.

Projects

A successful conceptual study was completed on 30 September 2016 and the project is currently in PFS, targeting 2019 for completion.

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Mineral Resource
Details of average drillhole spacing and type in relation to Mineral Resource classification
Quebradona
Type of drilling
Category
Spacing m (-x-)
Diamond
RC
Blasthole
Channel
Other
Comments
Measured
30 x 30
–
–
–
–
–
–
Indicated
60 x 60
–
–
–
–
–
Inferred
120 x 120
–
–
–
–
–
Grade/ore control
–
–
–
–
–
–
Drillhole spacing over the project is variable, influenced by environmental and social considerations. Where possible multiple
drillholes are conducted from the same drill pad to minimise impact on the environment. Drilling at Quebradona varies from
50m x 50m grid in the central part and 100m x 100m to 120m x 120m in the adjacent low grade Inferred Mineral Resource areas.
Due to having some multihole platforms, the drilling spacing in the first 300m is tighter than in the deeper portions.
Inclusive Mineral Resource: copper
Quebradona
as at 31 December 2017

Category	**Tonnes million**	**Grade %Cu**	**Contained copper tonnes million**	**pounds million**
Measured	–	–	–	–
Indicated	105.25	1.08	1.14	2,508
Inferred	471.60	0.53	2.49	5,492
Total	576.85	0.63	3.63	8,000

Quebradona is likely to be a copper mine with gold and silver as by-products. This will be confirmed and developed during PFS.

Inclusive Mineral Resource: gold

Quebradona

Category	**Tonnes million**	**Grade g/t**	**Contained gold as at 31 December 2017 tonnes**	**Moz**
Measured	–	–	–	–
Indicated	105.25	0.62	65.65	2.11
Inferred				

471.60
0.23
110.40
3.55
Total
576.85
0.31
176.05
5.66
Inclusive Mineral Resource by-product: silver
Quebradona
as at 31 December 2017
Category
Tonnes
million
Grade
g/t
Contained silver
tonnes
Moz
Measured
–
–
–
–
Indicated
105.25
6.38
672
21.60
Inferred
471.60
3.80
1,791
57.57
Total
576.85
4.27
2,462
79.16
Inclusive Mineral Resource by-product: molybdenum
Quebradona
as at 31 December 2017
Category
Tonnes
million
Grade
ppm
Contained molybdenum
kilotonnes pounds million
Measured

–
–
–
–
Indicated
105.25
137
14.39
32
Inferred
471.60
126
59.58
131
Total
576.85
128
73.96
163
259

AMERICAS
CONTINUED
QUEBRADONA
Quebradona
Grade tonnage curve underground (metric) (attributable)
Tonnes above
cut-off (millions)
A
verage grade above cut-off (g/t
)
600
525
450
375
300
225
150
75
3.0
2.5
2.0
1.5
1.0
0.5
0
.0
0.00
0.25
0.75
0.50
1.00
1.50
2.20
1.75
2.00
1.25
Cut-off grade (g/t)
Tonnes above cut-off
Average grade above cut-off
Exclusive Mineral Resource
The Quebradona project currently does not have any declared Ore Reserve and the exclusive and inclusive Mineral Resource
numbers are therefore identical.
Mineral Resource below infrastructure
All of the Mineral Resource is below infrastructure.
Pounds
(millions)
8,500
8,000
7,500
7,000

6,500
6,000
67
7,933
8,000
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Acquisitions
Other
2017
Quebradona
year-on-year changes in copper Mineral Resource
Total (attributable)
0
0
0
0
0
0
0
0
Estimation
Copper, gold, silver, molybdenum, arsenic and sulphur grades were estimated using ordinary kriging into a 40m x 40m x 20m block
model. Grades were estimated within grade-based 3D wireframe boundaries for copper and gold grades with separate domains for
molybdenum and sulphur.
Drillhole data was composited to 6m down-hole lengths prior to estimation and extreme values were capped. Estimation was into
homogeneous geological domains using ordinary kriging. Classification was guided by conditional simulation.
The Mineral Resource was tested for and found to have reasonable and realistic prospects for eventual economical 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. 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 drillhole data in those portions of the deposit.

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Ounces
(millions)
5.70
5.65
5.60
5.55
5.50
0.00
0.00
0.00
0.00
0.00
0.05
0.00
0.00
0.00
5.61
5.66
2016
Depletion
Exploration
Methodology
Gold price
Cost
Geotechnical
Metallurgical
Other
Acquisition/
disposal
2017
Quebradona
year-on-year changes in gold Mineral Resource
Total (attributable)
During 2017 no new Mineral Resource was added so no changes were made to the geological and estimation models. The
attributable percentage increased from 92.72% to 93.505%.
No changes at higher price ($1,600/oz) as the
existing mining designs were used to constrain
the Mineral Resource. At lower price ($1,200/oz)
a step of 0.1g/t Au from the grade tonne curve
was used to proportionately represent the
variations in price.
1,200
1,400
1,600
Percentage
change
Mineral Resource price ($/oz)
Tonnes Ounces
Grade
7.5

5.0
2.5
0
-2.5
-5.0
-7.5
-10
Quebradona
Inclusive Mineral Resource sensitivity
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ADMINISTRATIVE
INFORMATION
SECTION 6

DEFINITIONS
This section provides information on our definition of Mineral Resource and Ore Reser ve as well
as a glossar y of terms and abbreviations.

MINERAL RESOURCE

The SAMREC Code, 2016 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,
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 subdivided, and must be so reported, in order of increasing
confidence in respect of geoscientific evidence, into Inferred, Indicated or Measured categories."*
All reports of Mineral Resource must satisfy the requirement that there are reasonable prospects for eventual economic extraction
(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 and/or chip 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 UC or LUC.
In order to comply with the economic requirement of the definition of Mineral Resource, all AngloGold Ashanti Mineral Resource 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:

- That there is a reasonable expectation of eventual economic extraction
- The Mineral Resource is quoted *in situ* and has not been corrected for dilution, mining losses or recovery
-

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 drillhole 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.
Final Mineral Resource classification also considers relative confidence in sampling and drilling QA QC as well as other variables that
may impact on confidence in tonnage and grade.

DEFINITIONS
CONTINUED

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. While it would be reasonable to expect that the majority of Inferred Mineral Resources would upgrade to Indicated Mineral Resources with continued exploration, due to the uncertainty of Inferred Mineral Resources, it should not be assumed that such upgrading will always occur.

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, including that within the Ore Reserve design or stope shape
- Mineral Resource that sits above the Mineral Resource cut-off but below the Ore Reserve cut-off and which resides within the defined Ore Reserve volume
- Mineral Resource that lies between the LOM pit shell/mine design and the Mineral Resource pit shell/mine design (this material will become economic if the gold price increases)
- Mineral Resource where the technical studies to engineer an Ore Reserve have not yet been completed

All grade tonnage graphs represent in-situ grade and tonnes within the Mineral Resource. Caution should be exercised when interpreting the grade tonnage graphs presented. The ability to selectively mine the deposits may be precluded by the deposit geometry, mining method and the need for practical development of the orebody.

ORE RESERVE

The SAMREC Code, 2016 edition, definition of an Ore Reserve is as follows:

"A Mineral 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 prefeasibility 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 Mineral 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."

Although the term Ore Reserve is used throughout this document, it is recognised that the term Mineral Reserve is used in the

SAMREC code. For the purposes of reporting under the SAMREC Code, these terms are considered to be synonymous.

Ore Reserve is subdivided in order of increasing confidence into Probable Ore Reserve and Proved Ore Reserve.

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 PFS (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 FS and ultimately to implement the project.

GLOSSARY
OF TERMS

Banded Iron 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, 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 (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
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 electrowinning.

Feasibility study (FS)
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 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 PFS (SAMREC 2016).

Flotation

Concentration of gold and gold-hosting minerals into a small mass by various techniques (for example collectors, frothers, agitation and air flow) that collectively enhance the buoyancy of the target minerals, relative to unwanted gangue, for recovery into an overflowing 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 ore contained within a unit weight of mineralised material generally expressed in grams per metric tonne (g/t) or ounces per short ton of ore (oz/t) for gold-bearing material.

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 and is sufficient to assume geological and grade or quality continuity between points of observation (SAMREC 2016).

GLOSSARY
OF TERMS
CONTINUED

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. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration (SAMREC 2016).

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 and is sufficient to confirm geological and grade or quality continuity between points of observation. 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 Mineral Reserve or to a Probable Mineral Reserve (SAMREC 2016).

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.

Mineral deposit
A mineral deposit is a concentration (or occurrence) of material of possible economic interest in or on the Earth’s crust.

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.

Ore Reserve

The term Ore Reserve is preferred under the JORC Code but Mineral Reserve is in common use in other countries and reporting codes (SAMREC) and are generally accepted and regarded as synonymous.

Ounce (oz)
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.
Páramo
Apline tundra ecosystem/alpine moorland.
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.
Prefeasibility study (PFS)
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 a Mineral Reserve at the time of reporting. A PFS is at a lower confidence level than a FS (SAMREC 2016).
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 Mineral Reserve is lower than that applying to a Proved Mineral Reserve (SAMREC 2016).
Proved Ore Reserve
The economically mineable part of a Measured Mineral Resource. A Proved Mineral Reserve implies a high degree of confidence in the modifying factors. (SAMREC 2016).
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 and Colombia).
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 Mineral Resource model. For example, between the Mineral Resource model tonnage and the Grade Control model tonnage. It is expressed in both a grade and tonnage number.

GLOSSARY
OF TERMS
CONTINUED

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.

Selective mining unit (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, including 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 (TSF)
Dam facilities designed to store discarded tailings.

Tonne (t)
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.

ABBREVIATIONS
°
Degrees
$
United States dollars
3D
Three-dimensional space
2D
Two-dimensional space
AC
Aircore drilling
ADU
Ammonium diuranate or yellow cake
Ag
Silver
AGA Mineração
AngloGold Ashanti Córrego do Sítio
Mineração operations
AGAG
AngloGold Ashanti (Ghana) Ltd
ARS
Argentine peso
ASX
Australian Securities Exchange
Au
Gold
AUD
Australian dollars
Avg/Ave
Average
BIOX
Bacterial oxidation
BMD
Below mine datum
BRL
Brazilian real
ca.
Circa (approximately)
capex
Capital expenditure
CdS
Córrego do Sítio
CLR
Carbon Leader Reef
cm
Centimetres
cm.g/t
Centimetre grams per tonne
CR
Crystalkop Reef
Cu

Copper
DD
Diamond drilling
DNPM
The Brazilian National Department for
Mineral Production
DRC
Democratic Republic of the Congo
ESIA
Environmental and social impact
assessment
g
Grams
GGB
Geita Greenstone Belt
GGM
Geita Gold mine
g/t
Grams per tonne
ha
Hectare
JORC
Australasian Code for Reporting
Exploration Results, Mineral Resources
and Ore Reserves
JSE
Johannesburg Stock Exchange Ltd
JV
Joint venture
KCD
Karagba, Chauffeur and Durba
kg
Kilograms
koz
Thousand ounces
kozpa
Thousand ounces per annum
kt
Thousand tonnes
kg/t
Kilograms per tonne
km
Kilometres
km
2
Square kilometre
KMS
Kwezi Mensah Shaft
ktpa
Kilo tonnes per annum
lb

Pounds
LIB
Long inclined borehole
LUC
Localised uniform conditioning
M or m
Metre or million, depending on the context
m^2
Square metre
m^3
Cubic metre
Ma
Mega-annum
MCH
Meta-chert
MetRF
Metallurgical Recovery Factor
Mlb
Million pounds
mm
Millimetres
Mo
Molybdenum
Moz
Million ounces
MPRTO
Mineral and Petroleum Resources Titles Office
mRL
Metres relative level
MSG
Mineração Serra Grande
MSO
Mineable shape optimiser
Mt
Million tonnes
Mtpa
Million tonnes per annum
MW
Mega watt
MWS
Mine Waste Solutions
Nufcor
Nuclear Fuels Corporation of South Africa (Pty) Ltd
POX
Pressure oxidation
pXRF

Portable x-ray fluorescence
QA/QC
Quality Assurance/Quality Control
RCubed
Mineral Resource and Ore Reserve
Reporting System
R or ZAR
South African rand
Randgold
Randgold Resources Limited
RC
Reverse circulation drilling
ROM
Run-of-mine
RRSC
Mineral Resource and Ore Reserve
Steering Committee
S
Sulphur
SAG
Société Ashanti Goldfields de Guinea
SAG mills
Semi-autogeneous grinding mills
SAMREC
The South African Code for the Reporting
of Exploration Results, Mineral Resource
and Mineral Reserve
SEMOS
Société d'Exploration des Mines d'Or de
Sadiola SA
SEC
United States Securities and Exchange
Commission
SFZ
Sadiola Fracture Zone
SOKIMO
Société Minièrede Kilo-Moto
SOX
Sarbanes-Oxley Act of 2002
SSP
Sadiola Sulphide project
tpd
Tonnes per day
TSF
Tailings storage facilities
U_3O_8
Uranium oxide
UC
Uniform conditioning
VCR
Ventersdorp Contact Reef

VR
Vaal Reef
WUDLs
Western Ultra-deep Levels
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South Africa
Continental Africa
Australasia
Americas
Administrative

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FORWARD-LOOKING
STATEMENT

Certain statements contained in this document, other than statements of historic fact, including, without limitation, those concerning the economic outlook for the gold mining industry, expectations regarding gold prices, production, total cash costs, all-in sustaining costs, all-in costs, cost savings and other operating results, 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 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.

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This communication may contain certain “Non-GAAP” financial measures. AngloGold Ashanti utilises certain Non-GAAP performance measures and ratios in managing its business. Non-GAAP financial measures should be viewed in addition to, and not as an alternative for, the reported operating results or cash flow from operations or any other measures of performance prepared in accordance with IFRS. In addition, the presentation of these measures may not be comparable to similarly titled measures other companies may use. AngloGold Ashanti posts information that is important to investors on the main page of its website at www.anglogoldashanti.com and under the “Investors” tab on the main page. This information is updated regularly. Investors should visit this website to obtain important information about AngloGold Ashanti.

www.anglogoldashanti.com/
www.aga-reports.com

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 29, 2018

By:

/s/ M E SANZ PEREZ________

Name: M E Sanz Perez

Title:

EVP: Group Legal, Commercial & Governance