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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www.aga-reports.com

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.

NOTICE OF

NOTICE OF

HOW TO USE THIS REPORT

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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
- 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

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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
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AND PROJECTS
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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.

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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).
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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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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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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
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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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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**	**Explora-tion**	**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)
15
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Reconciliation of Ore Reserve (gold content Moz)

As at 31 December 2017

Previous year	**Depletion**	**Explo-ration**	**Metho-dology**	**Gold price**	**Cost**	**Geo-technical**	**Metal-lurgical**	**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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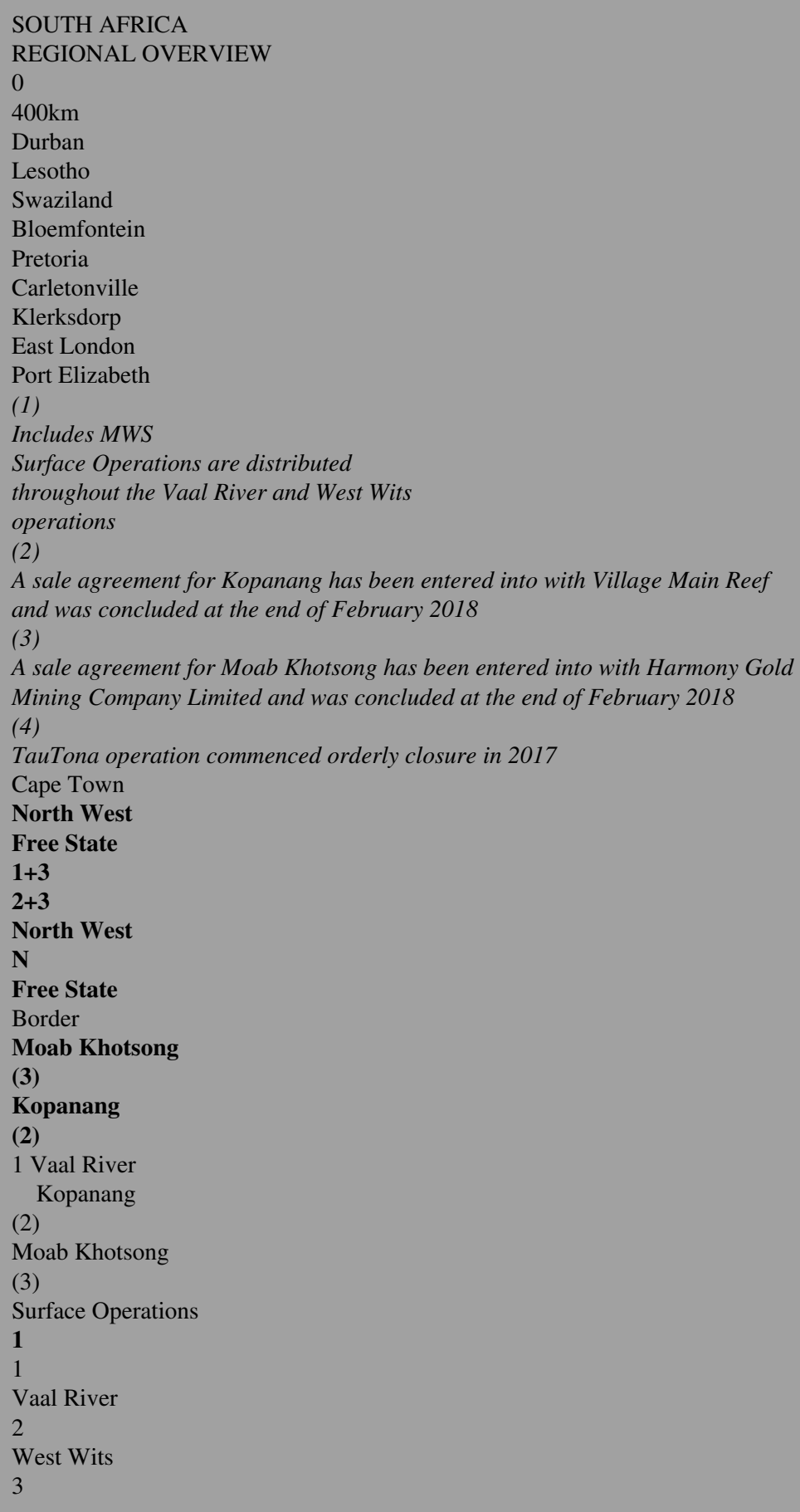
SOUTH AFRICA
REGIONAL OVERVIEW
0
400km
Durban
Lesotho
Swaziland
Bloemfontein
Pretoria
Carletonville
Klerksdorp
East London
Port Elizabeth
(1)
Includes MWS
Surface Operations are distributed
throughout the Vaal River and West Wits
operations
(2)
A sale agreement for Kopanang has been entered into with 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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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
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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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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	30.0
7	27.5
6	25.0
5	22.5
4	20.0
3	17.5
2	15.0
1	12.5
0	0
30.0	2
27.5	6
25.0	8
22.5	10
20.0	14
17.5	16
15.0	18
12.5	20

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

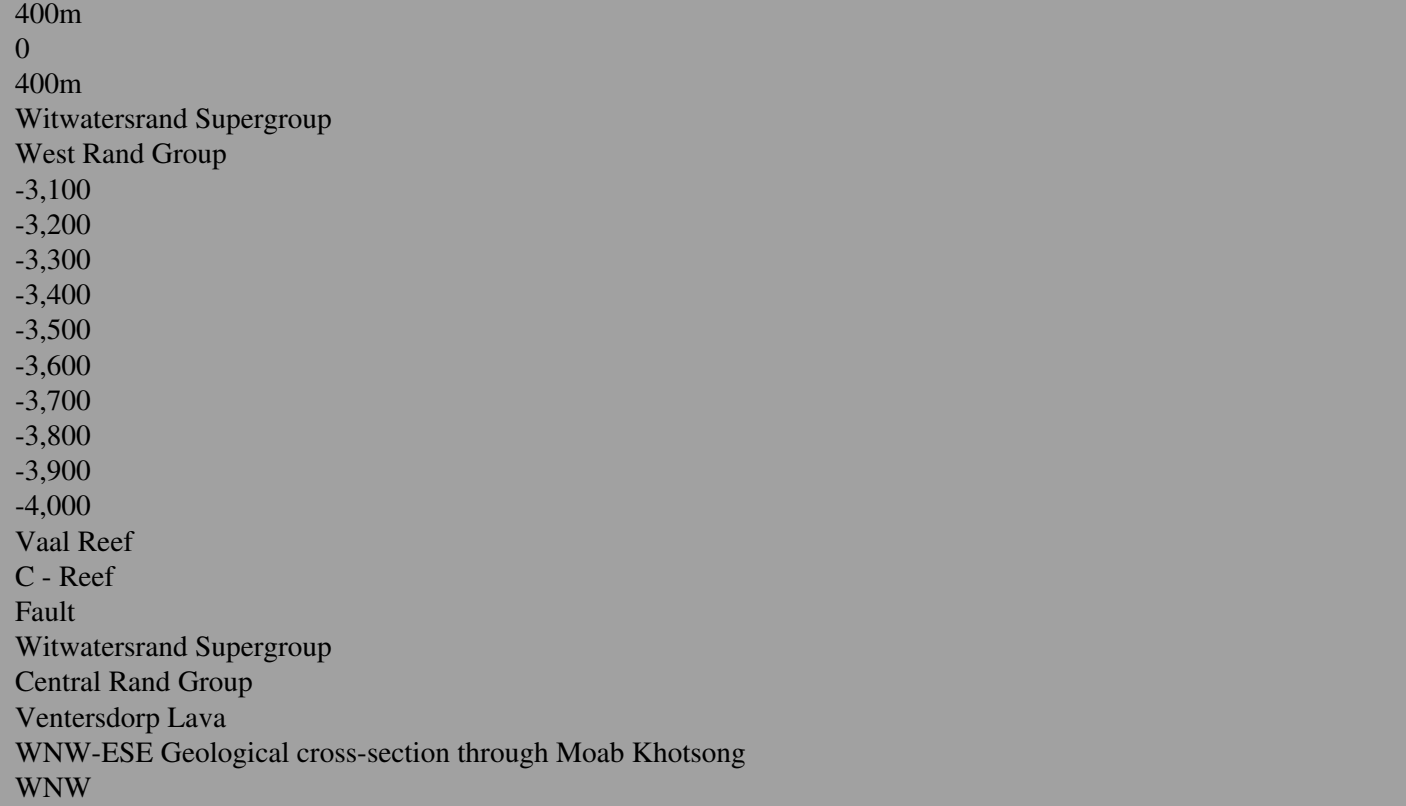
Brownfields exploration is focused on improving confidence in the geological model, as well as adding additional Mineral Resource.

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.



WNW-ESE Geological cross-section through Moab Khotsong
WNW

ESE
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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**
Surface drilling	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
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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
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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.

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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.
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MPONENG
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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.

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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
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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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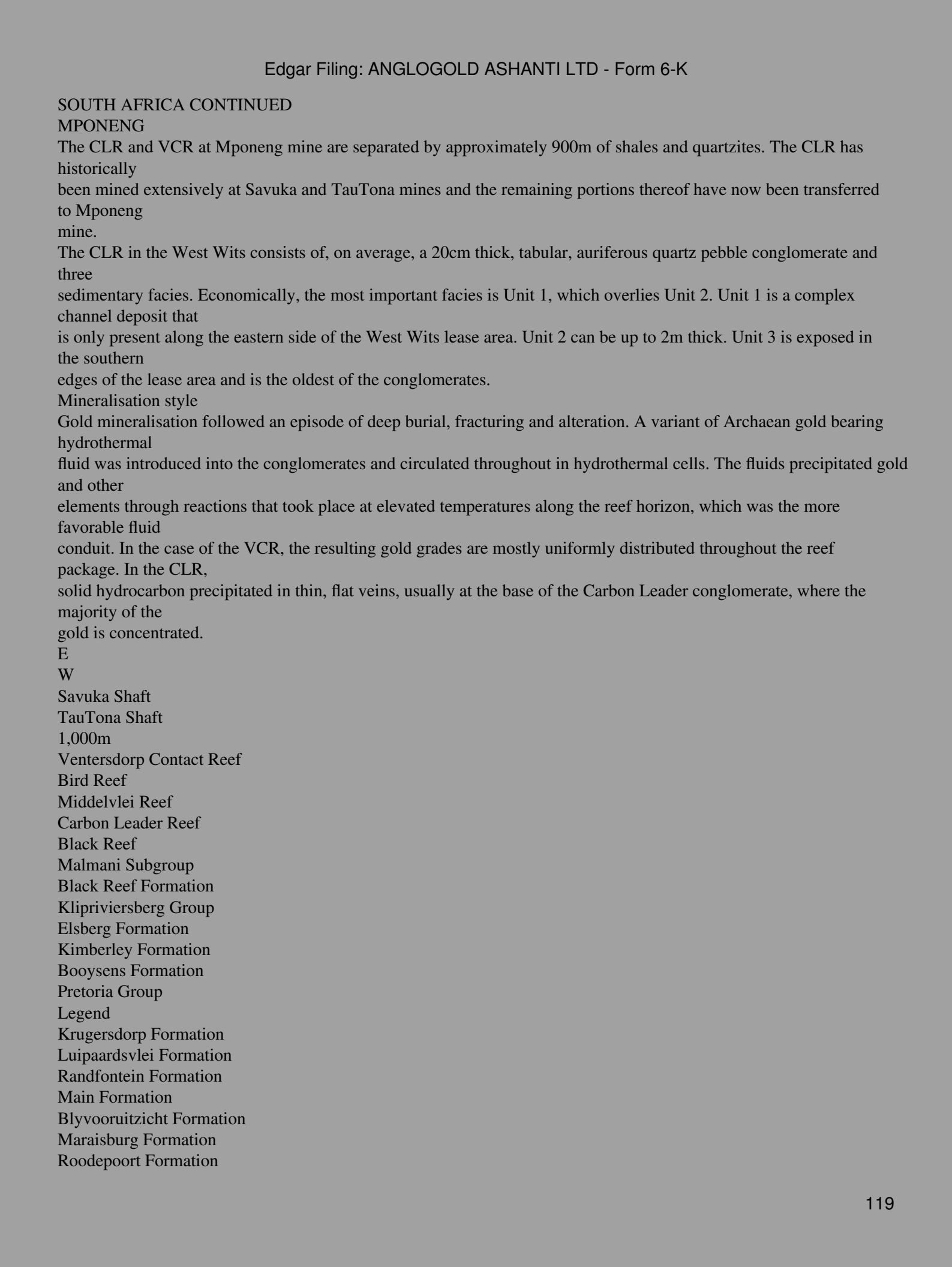
MPONENG

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.



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

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 and underground drilling
Grade/ore control
–
–
–
–
See Measured category

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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				
Category	**Tonnes million**	**Grade g/t**	**Contained gold 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.
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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.

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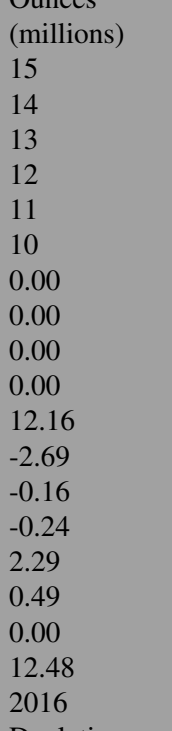
The decrease of 2.6% in Ore Reserve is mainly due to the net effect of depletion, a revised estimation model for the VCR, the
impact of the redesigned CLR project area and geotechnical changes which has been offset by the inclusion of the VCR in the LOM
extension project and transfer of Ore Reserve from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



Mponeng year-on-year changes in Ore Reserve

Total (attributable)

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SURFACE OPERATIONS
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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.

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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
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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
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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							
Type of drilling							
Category							
Spacing m (-x-)							
Diamond							
RC							
Blasthole							
Channel							
Other							
Comments							
Vaal River Surface							
Measured							
50 x 50							
–							

–
–
–

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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SURFACE OPERATIONS
Inclusive Mineral Resource
Surface Operations
Category
Tonnes
million
Grade
g/t
Contained gold
as at 31 December 2017
tonnes
Moz
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
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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.
60
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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.
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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.

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MINERAL RESOURCE AND ORE RESERVE REPORT

2017

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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.
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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
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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
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	**Category**	**Tonnes million**	**Grade g/t**	**Contained gold 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
68
MINERAL RESOURCE AND ORE RESERVE REPORT
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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
2
O-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.

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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.
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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)

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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.
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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
80
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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 2and expiring on 18 April 2019
- Ajopa North LVB/WR326/09 covering 48.34km and expiring on the 5 January 2019
2
- Teberebie LVB3722H/92 covering 25.83km and expiring on 1 February 2018. The application for
2
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.

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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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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
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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
86
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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.
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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.
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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.

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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.
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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.

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!
(
!
(
!
(
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
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O B U A S I
Competent Persons

Obuasi				
Category	**Competent Person**	**Professional organisation**	**Membership number**	**Relevant experience**
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.

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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.

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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
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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	