

# OPERATIONAL PROFILE 2018

**MPONENG**

WEST WITS, SOUTH AFRICA



ANGLO**GOLD**ASHANTI

# MPONENG, WEST WITS



## MAP LEGEND



- 1 **West Wits** / Mponeng
- 2 **Surface Operations** / Mine Waste Solutions and other surface treatment facilities in the West Wits and Vaal River areas
- 3 **Vaal River** / Kopanang and Moab Khotsong were sold on 28 February 2018

Mponeng, the world's deepest gold mine and our flagship South African operation is in the West Wits mining district, south-west of Johannesburg, on the border between Gauteng and North West Province.

Previously, West Wits had included TauTona but this mine was placed on orderly closure in the third quarter of 2017.

Mponeng exploits the Ventersdorp Contact Reef via a twin-shaft system to depths of between 2,800m and 3,400m below surface. Ore is treated and smelted at the mine's gold plant.

Currently, Mponeng is one of two operating entities in AngloGold Ashanti's South Africa region and is the company's only remaining deep-level gold mine in the country following the restructuring and sale of assets in 2018.

# PERFORMANCE 2018

## HIGHLIGHTS

**Production 18% up year-on-year at Mponeng**

**Improved cost performance and productivity**

**New shift arrangement introduced**

**Three-year wage agreement signed**

**Mineral Resource\* of 46.18Moz (inclusive)  
(33.51Moz below infrastructure)**

**Ore Reserve\* of 11.65Moz  
(8.53Moz below infrastructure)**

\* At 31 December 2018

## Operating performance

### Production

Mponeng's production was 265,000oz for 2018 18% higher on the year despite no longer having TauTona's contribution. Total production for the West Wits district was 16% lower following TauTona being placed on orderly closure in the latter part of 2017.

### Costs and capital expenditure

The all-in-sustaining cost of \$1,177/oz was 6.5% lower year-on-year, with total cash costs declining 3.6%. The reduction in costs is in line with our strategy to ensure that the South African operations are safely returned to profitability while mitigating job losses.

Cost management efforts continue in earnest to ensure that both on- and off-mine cost structures are appropriately resized for the smaller production base. Efforts will continue in 2019 to realise further cost reductions within the off-mine cost structures. Focus has shifted to reducing legacy costs, and the streamlining of systems and work processes to right-size the cost base to the smaller footprint and drive further operational efficiencies through improved productivity.

In addition, as part of Mponeng's safe production strategy to increase face time, a new shift arrangement was agreed with the South African unions. The new shifts were

successfully implemented on 12 November 2018 and are expected to continue helping to improve productivity and operational efficiency. Costs are therefore expected to benefit from improved mining practices and these new shift arrangements.

In 2018, the bulk of the capital expenditure for the South Africa region was on the Mponeng project. Phase 1 of the Mponeng project is nearing completion and is on budget (see *Growth and improvement* below). The project is expected to be completed during the second quarter of 2019. Remaining items include completion of the water management infrastructure, sealing the dam and installing additional support in the pump and substation chambers on 127 level. Raise-boring of the ventilation hole, from 116 level to decline 3, is also underway and is expected to increase ventilation capacity for 126 level.

The feasibility study for the life-of-mine extension project was subject to a technical review in June 2018. A further study covering five areas with potential to improve the business case of the project is expected to be concluded during the second quarter of 2019.

### Growth and improvement

**Phase 1 of the Mponeng project:** Raise-boring of the reef pass from 123 level to 126 level was completed during 2018 and

construction of the tip and control chute began in December 2018. Installation of additional support to consolidate the hanging wall and side walls of the pump chamber and substation will follow in the second half of 2019. The production ramp up on 123 and 126 levels will continue during 2019.

In April, a fatal accident at 126 level impacted Ore Reserve Development (ORD) and certain construction activities. As a result, the production ramp up was delayed allowing for implementation of the enhanced support strategy in geologically affected areas.

Construction of water management infrastructure is currently behind schedule with the piping installation still outstanding. Construction of ore-handling infrastructure has been completed. ORD at 126 level also encountered areas with higher geological complexity, which required additional secondary support, slowing advance rates.

Phase 2 of the mine life extension project has been put on hold due to capital constraints and to allow for the completion of a feasibility study in 2019. Although this is a long-term project, sufficient development has been completed to ensure a life of mine (LOM) of approximately eight years.

## PERFORMANCE 2018 continued

The technology and innovation project remains on hold, in line with the accelerated placement of TauTona into orderly closure. However, work continues to establish the site for the high-strength backfill plant at Mponeng. Delays were encountered in the development of the excavation and it is estimated that plant construction will begin in the first half of 2019.

### Sustainability performance

#### Regulatory and political issues

During 2018, political and regulatory uncertainty remained one of the most significant areas for AngloGold Ashanti. Regulatory changes included the addition of social considerations and requirements into the licensing process.

The revised Mining Charter was gazetted, along with the withdrawal of the Mineral and Petroleum Resources Act Amendment Bill. This was broadly welcomed by the industry and its stakeholders, although certain elements of the revised Mining Charter remain a concern. The consultative and reconciliatory approach by the new Minister of Mineral Resources is anticipated to contribute towards improving sentiment in the South African mining industry.

The Carbon Tax is expected to be implemented in June 2019. There is, however,

less clarity on the draft National Climate Change Bill. A number of concerns have been raised by industry, including areas of incongruence with the Paris Agreement on Climate Change and the intent to introduce criminal sanction for failure to meet a carbon budget. Further discussions on this are anticipated over the course of 2019. In South Africa, our electricity consumption remains the major source of greenhouse gas (GHG) emissions, because the national energy supplier, Eskom, which we use is dependent on coal for power generation. However, energy efficiency gains in South Africa contributed much of the reduction achieved in 2018, with greenhouse gas emissions for the West Wits district declining by 35% for the year.

#### Employees and labour relations

The South Africa region embarked on the “Setting the South African region up for a Sustainable Future” initiative as a strategic decision to secure a sustainable future for the South African operations. The initiative was aimed at:

- optimising operational life of mine
- increasing focus on responsible mine closure
- reducing Surface Operations’ footprint
- continuing environmental restoration and rehabilitation post mining activities

In support of this, the Employee

Transition Framework (ETF) was adopted. This framework integrates policies, procedures and practices to guide the optimal application of human resource management in a rapidly evolving business and social environment.

On 17 September 2018, AngloGold Ashanti signed a three-year wage agreement with all unions – the Association of Mineworkers and Construction Union (AMCU), which represents 48.9% of AngloGold Ashanti’s workforce in South Africa; Solidarity, which represents 3.7%; UASA, which represents 9.4%; and the National Union of Mineworkers (NUM), which represents 32.8%. The wage agreement, effective from 1 July 2018, covered wage increases for three years as well as a new shift arrangement to be implemented at Mponeng. The new shift arrangements were implemented on 12 November 2018 and management of the change risk is in place. All employees in the South Africa region are covered by the wage agreement, including employees not affiliated to any trade union who fall into the worker categories outlined in the agreement.

The new shift agreement is seen as being an important step in the process to improve productivity and employee remuneration – particularly those at the entry level – while

providing certainty for three years.

#### Safety and health

Safety is AngloGold Ashanti’s *first* value, premised on the fundamental principle that the safety of our people is integral to our business. The region’s “Safe Production” strategy is critical in maintaining a safe work environment. We continue to strive for zero harm. Mponeng’s all-injury frequency rate, the broadest measure of workplace safety, improved to 17.22 per million hours worked in 2018, from 18.88 in 2017.

Seismic risk in South Africa remains high due to challenging operating conditions. Work in this area continues and is reported on regularly to the Social, Ethics and Sustainability Committee and the board, which both have oversight of safety.

Mponeng’s “Safe Production” strategy is underway, defined by “a new way of work” and the implementation of various initiatives culminating from the Mponeng 2018 safety summit. The new shift arrangement allows for substantially increased face time, the completion of planned work cycle activities and improved safe production levels. Encouraging signs are evident with buy-in from all concerned, although it is early days.

## PERFORMANCE 2018 continued

### In memoriam

In April 2018 at Mponeng, Palo James Machini, a mechanical loader operator, was fatally injured in a seismic fall of ground during mechanical cleaning operations on 126 level. We extend our sincere condolences to the families, colleagues, friends and communities of the deceased.

Following on the implementation and continuous reinforcement of the safety strategy, safety performance has improved. The decline in the rail-bound transport risk at Mponeng has largely been due to installation of technical controls for underground transport, including collision avoidance devices, front-driven locomotives and electronic remote signalling.

### Occupational diseases

Given the nature of ultra-deep, hard-rock, labour-intensive gold mining, the industry faces a variety of health challenges and workplace risks that are compounded by certain diseases prevalent in southern Africa, including occupational lung disease and HIV/Aids. A high-level assessment (covering contributory causes, consequences and critical controls) of health risks in the South

Africa region has been incorporated into AngloGold Ashanti's "health risk architecture".

The all occupational diseases frequency rate (AODFR) for the South Africa region is marginally up at 12.84 per million hours worked in the four quarters ended September 2018 (compared to 12.39 in 2017), driven by marginally rising annual rates of silicosis and noise-induced hearing loss (NIHL), and dysbarism/barotrauma. The AODFR includes silicosis, occupational tuberculosis (TB), NIHL, barotrauma (pressure-related injury to the middle ear following rapid descent/ascent in deep-level mines) and all heat-related illnesses.

In all, a 41% year-on-year reduction to 458 cases of occupational disease was reported in 2018 (2017:778):

- 66 cases of NIHL
- 121 of occupational TB
- 39 of heat illness
- 162 of barotrauma
- 70 of silicosis

New cases of HIV and TB in the South Africa region have declined by some 70% over the past 12 years. Much of this sustained success can be attributed to integrated health programmes across the business, including effective screening,

diagnosis and treatment programmes, improved dust suppression on the mines, effective housing and accommodation strategies with a drive to family accommodation and private rooms, and a declining dependency on migrant labour.

New cases of HIV (laboratory confirmed cases) have declined from 4.7% in 2005 to 1.1% in 2018, and new TB cases have

declined from 3.02% in 2005 to 0.8% in 2018. Incidence rates for these two diseases, which are inextricably linked, have shown sustained and encouraging improvements over 12 years. While new TB and HIV rates continue to decline, sick absenteeism rates remain high at 5.4%, driven by the burden of chronic diseases, including hypertension, diabetes and obesity.



## PERFORMANCE 2018 continued

### Silicosis litigation

On 3 March 2011, in Mankayi vs. AngloGold Ashanti, the Constitutional Court of South Africa held that section 35(1) of the Compensation for Occupational Injuries and Diseases Act, No. 130 of 1993, does not cover an “employee” who qualifies for compensation in respect of “compensable diseases” under the Occupational Diseases in Mines and Works Act, No. 78 of 1973, (ODMWA). This judgement allows such qualifying employee to pursue a civil claim for damages against the employer. Following the Constitutional Court decision, AngloGold Ashanti has become subject to numerous claims relating to silicosis and other Occupational Lung Diseases (OLD), including class actions and individual claims.

In November 2014, Anglo American South Africa, AngloGold Ashanti, Gold Fields Limited, Harmony Gold Mining Company Limited and Sibanye Gold Limited formed an industry working group on OLD (OLD Working Group) to address issues relating to compensation and medical care for occupational lung disease in the gold mining industry in South Africa. The working group now also includes African Rainbow Minerals (ARM).

AngloGold Ashanti, along with other mining companies including Anglo American South

Africa, ARM, Gold Fields Limited, Harmony Gold Mining Company Limited, DRDGOLD Limited, Randgold and Exploration Company Limited, and Sibanye Gold Limited, were served with a consolidated class action application on 21 August 2013. On 13 May 2016, the South Gauteng High Court of South Africa ruled in favour of the applicants and found that there were sufficient common issues to certify two industry-wide classes: a Silicosis Class and a Tuberculosis Class.

On 3 June 2016, AngloGold Ashanti, together with certain of the other mining companies, filed an application with the High Court for leave to appeal to the Supreme Court of Appeal (SCA). On 13 September 2016, the SCA granted the mining companies leave to appeal the entire High Court ruling to the SCA. On 10 January 2018, in response to a postponement request from all parties involved in the appeal due to the advanced stage of settlement negotiations, the Registrar of the SCA postponed the hearing date until further notice.

Settlement of the consolidated class action litigation was reached on 3 May 2018, after three years of extensive negotiations between the OLD Working Group companies and the lawyers of the claimants. On 13 December 2018, the High Court issued a Court order

setting out the process of how members of the settling classes and any interested parties can object to the proposed settlement.

In the coming months, the High Court is scheduled to hold a hearing during which the Court will consider arguments by the parties to the settlement as well as arguments by other interested parties who are granted leave by the Court to participate, including parties filing objections to the proposed settlement. The purpose of this second hearing is to determine the fairness and reasonableness of the settlement.

If the settlement is approved by the Court and all its other conditions are met, a trust (Tshiamiso Trust) will be established and will exist for a minimum of 13 years. Eligible claimants will be able to seek specified payment from the Tshiamiso Trust and the amount of monetary compensation will vary depending on the nature and degree of the disease. As of 31 December 2018, AngloGold Ashanti has recorded a provision of \$63 million to cover the estimated settlement costs and related expenditure of the silicosis litigation.

It is possible that additional class actions and/or individual claims relating to silicosis and/or other OLD will be filed against AngloGold

Ashanti in the future. AngloGold Ashanti will defend all current and subsequently filed claims on their merits. Should AngloGold Ashanti be unsuccessful in defending any such claims, or in otherwise favourably resolving perceived deficiencies in the national occupational disease compensation framework that were identified in the earlier decision by the Constitutional Court, such matters would have an adverse effect on its financial position, which could be material.

For more details on the process, see websites [1](#) [2](#).

In parallel to that being done on the silicosis class action settlement, work by the OLD Working Group continues in earnest to assist the Medical Bureau for Occupational Diseases (MBOD) and the Compensation Commissioner for Occupational Diseases (CCOD). These institutions are the government departments responsible for certification and compensation of mineworkers with OLD and are tasked with ensuring effective administration of responsibilities in terms of the Occupational Diseases in Mines and Works Act (ODMWA).

↓ [1 www.silicosissettlement.co.za](http://www.silicosissettlement.co.za)  
↓ [2 www.oldcollab.co.za/](http://www.oldcollab.co.za/)

## PERFORMANCE 2018 continued

### Environment

#### Water management challenges

Excess fissure water from the operations of Blyvooruitzicht Gold Mining Company Limited (in provisional liquidation) in West Wits remains a potential threat to our Mponeng mine, for maintaining process water balance and the mine's ability to absorb a large amount of rainfall. Throughout the year, Covalent Water Company, a wholly owned subsidiary of AngloGold Ashanti, managed to pump and discharge extraneous water from Blyvooruitzicht shafts, while the West Wits operations absorbed some of the acidic water from Blyvooruitzicht Mine 5 Shaft. To eliminate the risk, Covalent Water Company have begun evaluating options to intercept and process the acidic water. Covalent Water Company operates the Blyvooruitzicht 4 and 6 shafts in terms of a registered servitude.

#### Contributing to communities

AngloGold Ashanti continues to support sustainable socio-economic development initiatives, including alternative livelihood creation in host and labour-sending communities of South Africa. This is often in the face of various challenges. At the AmaMpondo aseMalangeni agricultural project in the AmaMpondo Kingdom, the 2018 agricultural production season was

marred by community conflicts. AngloGold Ashanti has since considered increasing the level of technical and governance support provided. An amount of R13.2m was allocated to the 2018-2019 production season in partnership with Farmsol.

During 2018, two pioneering agricultural projects were launched and handed over to the respective co-operatives in the host communities of Matlosana and Merafong. The Matlosana and Wedela agricultural projects are included in our social and labour plan commitments to be implemented over a three-year period.

The revitalised Masakhisane Enterprise Development Fund continues to support local business development projects by disbursing interest-free loans to small, medium and micro enterprises (SMMEs). During 2018, the fund disbursed a total of 36 interest-free loans at a value of R13.39m, assisting business initiatives in the Matlosana and Merafong communities.

For further information on AngloGold Ashanti and its work and performance, as a group and in the South Africa region, see the <IR> and <SDR> which are available online at [www.aga-reports.com](http://www.aga-reports.com)



## PERFORMANCE 2018 continued

### Key statistics

MPONENG	Units	2018	2017 <sup>(1)</sup>	2016 <sup>(1)</sup>
<b>Operating performance</b>				
Cut-off grade <sup>(2)</sup>	oz/t	0.176	0.145	0.146
	g/t	6.03	4.98	4.99
Recovered grade	oz/t	0.195	0.207	0.227
	g/t	8.19	7.09	7.78
Tonnes treated/milled	Mt	1.2	1.4	1.7
Gold production	000oz	265	315	400
Total cash costs	\$/oz	977	1,311	914
All-in sustaining costs	\$/oz	1,177	1,544	1,133
Capital expenditure	\$m	54	85	101
Productivity	oz/TEC	4.03	2.90	3.28
<b>Safety and health performance</b>				
No. of fatalities		1	4	5
All injury frequency rate (AIFR)	per million hours worked	17.12	16.20	15.40
<b>People</b>				
Total average no. of employees		5,400	9,784	10,828
– Permanent		5,037	8,920	9,964
– Contractors		363	864	864
<b>Environmental performance</b>				
Water use	ML	3,256	3,688	4,411
Water use efficiency	kL/t	0.69	0.80	1.00
Energy consumption	PJ	3.10	4.61	4.93
Energy intensity	GJ/t	0.66	1.00	1.11
Greenhouse gas (GHG) emissions	000t	805	1,290	1,375
GHG emissions intensity	t CO <sub>2</sub> e/t	171	280	311
Cyanide use	t	1,270	1,717	1,460
No. of reportable environmental incidents		0	0	0
Total rehabilitation liabilities	\$m	5	30	24
<b>Social performance</b>				
Community investment <sup>(3)</sup>	\$m	5	6	5
Payments to government <sup>(3)</sup>	\$m	91	118	106

<sup>(1)</sup> Data for 2017 and 2016 includes TauTona and Savuka.

<sup>(2)</sup> Based on the Ore Reserve.

<sup>(3)</sup> For the South Africa region as a whole.