



# OPERATIONAL PROFILE 2017



**VAAL RIVER**  
SOUTH AFRICA

The two Vaal River mining operations, which share a milling and treatment circuit, are located around 180km from Johannesburg, near the Vaal River, on the Free State-North West Province border.

# HIGHLIGHTS

## 4% INCREASE

in production

## KOPANANG AND MOAB KHOTSONG

sold in separate transactions

## NO ENVIRONMENTAL

incidents reported

## WATER AND ENERGY

usage decline

As at 31 December 2017:

- **MINERAL RESOURCE** of 19.32Moz (inclusive) (12.02Moz below infrastructure)
- **ORE RESERVE** of 5.23Moz (3.48Moz below infrastructure)



As at December 2017, the Vaal River mining operations were:

- **Kopanang**, which is bound to the south by the Jersey Fault, has a single shaft system to a depth of 2,334m. It exploits the Vaal Reef almost exclusively, producing gold as its primary output and uranium oxide as a by-product.
- **Moab Khotsong**, AngloGold Ashanti's newest South African mine, is located in the Free State and has a single shaft system mining to a depth of 3,100m. Given the geological complexity of the Vaal Reef, the mine's principal reef, scattered mining is employed. Great Nologwa's operating infrastructure and employees have been incorporated into Moab Khotsong since 2015.

## Corporate developments

Earlier in the year, AngloGold Ashanti signalled to stakeholders that it would review its South African mining operations in light of the heavy, and ultimately unsustainable losses being incurred. On 28 June 2017, AngloGold Ashanti announced that it would restructure its South African operations to safely return the business to profitability, while mitigating job losses. Costs at some of the operations were making it uneconomical to continue mining, with the all-in sustaining costs incurred far exceeding the average gold price. The mines affected included Kopanang, which produced its first gold 36 years ago.

To safeguard the long-term sustainability of the business, AngloGold Ashanti embarked on a complex and careful consultation process with all the relevant stakeholders (see *Employee engagement*, page 81 of the <IR>) as a decision was being made to place the

Kopanang mine on care and maintenance. However, subsequent to the announcement, unsolicited expressions of interest were received from several parties which ultimately led to the decision to sell Kopanang and saved jobs that would have otherwise been lost had the mine been closed. On 28 February 2018, Kopanang with the nearby West Gold Plant, and related infrastructure were sold to Heaven-Sent SA Sunshine Investment Company Limited (which owns interest in Village Main Reef, the operator of the Tau Lekoa mine) – see page 77 of the <IR> for full details on the sale transaction. Resultantly, jobs were saved with 3,054 employees out of the total workforce of 3,638 having been transferred to the new owner of the mine West Wits.

On 19 October 2017, AngloGold Ashanti announced the sale of the Moab Khotsong and Great Nologwa mines and related infrastructure to Harmony Gold Mining Company Limited (Harmony). This transaction included the release of AngloGold Ashanti from the management and rehabilitation liabilities of underground water in the KOSH basin. This sale transaction was concluded on 28 February 2018.

Following the asset sale transaction, with effect from 1 March 2018, AngloGold Ashanti no longer have underground mining operations in the Vaal River region in South Africa but will retain the long-life Mine Waste Solutions tailings retreatment operation, as well as the surface rockdump reclamation operations that will continue to be treated through the Kopanang gold plant.

## Operational performance

### Production

The Vaal River operations improved production by 4% year-on-year to 385,000oz. The main contribution was from Moab Khotsong where efficiencies improved and there were fewer safety-related disruptions, despite dilution and a lower mine call factor. At Kopanang, production remained flat year-on-year, impacted by safety-related interruptions following the fall-of-ground fatal incidents in the fourth quarter. However, volumes mined improved and implementation of the cycle mining strategy showed early signs of success.

For 2017, 0.8Mlb of uranium (2016: 0.8Mlb) was produced as a by-product. Following finalisation of the sales of Kopanang and Moab Khotsong, AngloGold Ashanti will no longer produce uranium.

### Costs

Total cash costs were \$958/oz. In line with the company's continued focus on improving efficiencies, a cost savings plan was adopted towards the end of 2016 to realise synergies from shared services among business units. This entailed, among others, the review of all commodity and service contracts to optimise agreements where possible and align related costs.

### Capital expenditure

The all-in sustaining cost for the year was \$1,094/oz. While sustaining capital expenditure continued during the year, total capital expenditure decreased as a result of cost curtailments in line with the review of operations conducted in light of heavy and unsustainable losses being incurred. By year end, AngloGold Ashanti had restructured its South African asset base, which included the expensing of certain capital costs at Kopanang.

### Sustainability performance

For further information on sustainable development activities related to Vaal River, including safety and health, employee relations, the environment, communities, and security and human rights, refer to:

- *Regional reviews – South Africa* in the <IR>, available at [www.aga-reports.com](http://www.aga-reports.com)
- the <SDR>, also available at [www.aga-reports.com](http://www.aga-reports.com)



## VAAL RIVER – KEY STATISTICS

	Units	2017	2016	2015
<b>Operational performance</b>				
Cut-off grade <sup>(1)</sup>	oz/t	0.126	0.119	0.129
	g/t	4.31	4.07	4.43
Recovered grade	oz/t	0.202	0.222	0.210
	g/t	6.93	7.60	7.21
Tonnes treated/milled	Mt	1.7	1.6	1.6
Gold production	000oz	385	371	371
Total cash cost	\$/oz	958	875	867
All-in sustaining cost	\$/oz	1,094	1,049	1,084
Capital expenditure	\$m	50	58	68
Productivity	oz/TEC	3.32	3.01	3.03
<b>Safety and health</b>				
No. of fatalities		3	1	3
All injury frequency rate (AIFR)	per million hours worked	17.44	15.88	15.01
No. of employees on ART		1,648	1,483	1,464
<b>People</b>				
Total average no. of employees		10,022	10,365	10,521
– Permanent		9,126	9,464	9,534
– Contractors		896	896	987
<b>Environment</b>				
Water usage <sup>(2)</sup>	ML	10,813	12,275	13,259
Water usage per tonne treated	kL/t	1.36	1.37	1.46
Energy usage <sup>(2)</sup>	PJ	4.61	4.87	4.89
Energy usage per tonne treated	GJ/t	0.58	0.54	0.54
Greenhouse gas (GHG) emissions (CO <sub>2</sub> e)	000t	1,242	1,282	1,232
GHG intensity per tonne treated	t CO <sub>2</sub> e/t	156	143	136
Cyanide usage	t	1,975	1,863	2,020
No. of reportable environmental incidents		0	0	1
Total rehabilitation liabilities	\$m	60	47	56

<sup>(1)</sup> Based on the Ore Reserve.

<sup>(2)</sup> These include consumption by Surface Operations' facilities located in these areas.