AngloGoldAshanti

OPERATIONAL PROFILE 2016

VAAL RIVER

SOUTH AFRICA

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

MAP

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HIGHLIGHTS

10% INCREASE IN production at Moab Khotsong

KOPANANG AND MOAB KHOTSONG each achieve one million fatality-free shifts

ALL-IN COSTS DECLINES to $1,052/oz on improving productivity at Moab Khotsong

NO ENVIRONMENTAL incidents reported

WATER AND ENERGY usage decline

As at 31 December 2016:

- **MINERAL RESOURCE** of 20.8Moz (inclusive)
- **ORE RESERVE** of 5.5 Moz

- **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 Noligwa's operating infrastructure and employees have been incorporated into Moab Khotsong since 2015.

OPERATIONAL PERFORMANCE

PRODUCTION

Production at the Vaal River operations remained largely unchanged at 371,000oz. A 10% year-on-year increase in production from Moab Khotsong offset the decline at Kopanang. At Moab Khotsong, increased production was driven by higher volumes mined, additional face length availability, a 5% increase in the mine call factor (MCF) and the higher underground grade mined during the year.

However, production was hampered by safety-related stoppages in the second quarter of the year and decreased production from Kopanang, a result of lower volumes and a 6% decrease in grade mined. Lower volumes mined were partly attributed to safety-related stoppages and to reduced efficiencies given that mining is largely conducted at the extremities of the operation, causing significant travel times to production areas. The mining cycle has been modified to allow for more efficient use of the limited face time available. The decline in underground grade was expected as the mining fronts move towards the lower grade western areas. To mitigate the safety-related disruptions, implementation of our four-pillar safety strategy continues, with enhanced operating and safety systems and technologies.

The Vaal River operations produced 0.8Mlb of uranium in 2016 (2015: 0.9Mlb) as a by-product.

COSTS

The focus at all the South African operations was on identifying projects to both rationalise off-mine costs and drive on-mine efficiencies. The consolidation of the region's operations into three operating entities, to eliminate any duplication of services and management, is now complete. Additionally, Project 500 benefits have helped mitigate the impact of lower production on costs and grade, and had a positive impact on free cash flow.

In 2017, the focus will be on implementing a global shared-services centre (GSSC) for finance and procurement disciplines to enable the region to benefit from improved administrative, financial, process and purchasing efficiencies. The GSSC is currently reviewing the realisation of this value which will assist the region in reducing its cash costs.

GROWTH AND IMPROVEMENT

Initial development of project Zaaiplaats at Moab Khotsong was undertaken to facilitate exploitation of additional ore blocks adjacent and contiguous to current mining areas. The most important are the lower mine blocks (Zaaiplaats and areas A, B and C), located southwest of current mine infrastructure and extending below the existing mine. Over the past few years, the decline in the gold price, together with changes in key parameters and economic assumptions, reduced the economic viability of this project and it was placed on hold. While Zaaiplaats is included in Moab Khotsong's life-of-mine plan and Ore Reserve base, it is currently the subject of a prefeasibility study that seeks to improve its investment case.

CAPITAL EXPENDITURE

Capital expenditure in rand terms remained in line with last year, due to the sustained focus on capital discipline, efficient project delivery and delays caused by safety-related stoppages.

SUSTAINABILITY PERFORMANCE

For information on our sustainable development activities, refer to:

- the South Africa regional review in the Integrated Report 2016, available at www.aga-reports.com/16/ir/
- the Sustainable Development Report 2016, available at www.aga-reports.com/16/sdr/home

VAAL RIVER – KEY STATISTICS

	Units	2016	2015	2014
Operational performance				
Cut-off grade [1]	oz/t	**0.119**	0.129	0.133
	g/t	**4.07**	4.43	4.55
Recovered grade	oz/t	**0.222**	0.210	0.225
	g/t	**7.60**	7.21	7.72
Tonnes treated/milled	Mt	**1.6**	1.6	1.9
Gold production	000oz	**371**	371	452
Total cash cost	$/oz produced	**875**	867	857
All-in sustaining cost	$/oz sold	**1,049**	1,084	1,061
Capital expenditure	$m	**58**	68	78
Productivity	oz/TEC	**3.01**	3.03	3.45
Safety and health				
No. of fatalities		**1**	3	1
All injury frequency rate (AIFR)	per million hours worked	**15.88**	15.01	15.83
No. of employees on ART		**1,483**	1,464	1,476
People				
Total average no. of employees		**10,365**	10,521	11,204
– Permanent		**9,464**	9,534	10,245
– Contractors		**896**	987	959
Environment				
Water usage [2]	ML	**12,275**	13,259	13,402
Water usage per tonne treated	kL/t	**1.37**	1.46	1.31
Energy usage [2]	PJ	**4.87**	[3]4.89	5.31
Energy usage per tonne treated	GJ/t	**0.54**	[3]0.54	0.52
Greenhouse gas (GHG) emissions (CO_2e)	000t	**1,232**	[3]1,232	1,360
GHG intensity per tonne treated	t CO_2e/t	**143**	136	133
Cyanide usage	t	**1,863**	2,020	2,567
No. of reportable environmental incidents		**0**	1	0
Total rehabilitation liabilities	$m	**46.5**	56	45

[1] Based on the Ore Reserve.

[2] These include consumption by Surface Operations' facilities located in these areas.

[3] Restatement due to error in source data for 2014 and 2015.