

OPERATIONAL PROFILE

2013



The two mines making up the West Wits operations are situated southwest of Johannesburg, on the border between Gauteng and North West Province.

The West Wits mines are:

- **Mponeng**, the world's deepest gold mine, exploits the Ventersdorp Contact Reef (VCR) at depths of between 2,400m and 3,900m via a twin-shaft system. Ore is treated and smelted at the mine's gold plant.
- **TauTona** exploits both the Carbon Leader Reef and the VCR via a three-shaft system, supported by secondary and tertiary shafts sinking to depths of between 1,850m and 3,450m. TauTona's infrastructure is being used to access the remaining Ore Reserve at Savuka. A link between the two mines reduces dependency on a single infrastructure system, including ore passes.

PERFORMANCE 2013

Increased production at TauTona failed to offset the decline in output from Mponeng. Total production from the West Wits operations accounted for 45% of production from South Africa.

Project 500 began, an initiative to reduce overall group costs by \$500m in the 18 months to end 2014. Projects were deferred and cost-saving initiatives to optimise energy consumption and underground locomotive fleets, and to reduce consumable expenditure, were implemented.

Capital expenditure declined following the scaling back of project investment, including that on the deepening project at Mponeng, as part of the cost-cutting initiatives across the portfolio. Capital expenditure in 2013 was predominantly on ore reserve development across all underground operations.

A project was initiated to increase the monthly processing capacity of the Mponeng gold plant from 160,000t to 210,000t. This will enable the reef mined at the West Wits operations to be treated through a single plant and the marginal ore dump material to be processed through the Savuka gold plant. This will in turn enable the optimisation of each plant according to their feed material.

HIGHLIGHTS OF THE YEAR

- Production down on the year on declining grades
- Costs remain stable
- An average of 11,772 employees achieved a productivity rate of 4.7oz per total employee costed (TEC)
- At a test site established at TauTona, experiments involving reef boring and the application of ultra-high strength backfill are being conducted
- As at 31 December 2013, the total Mineral Resource of 57.01Moz for the West Wits operations accounted for 60% of the South Africa region's mineral resource

TauTona is the leading test site for the new technology being developed by the Technology and Innovation Consortium. Significant progress was made in three key areas of focus: geological drilling, reef boring and ultra-high-strength backfill.

The ultimate aim is the development of a more automated mining method for deep-level underground operations in South Africa which will enable us to safely and efficiently mine large, deep orebodies.

West Wits – key statistics

	Units	2013	2012	2011
Operational performance				
Pay limit	oz/t	0.38	0.37	0.31
	g/t	14.09	13.51	11.24
Recovered grade	oz/t	0.21	0.25	0.25
	g/t	7.19	8.54	8.70
Tonnes treated/milled	Mt	2.6	2.3	2.8
Gold production	000oz	589	631	793
Total cash costs ⁽¹⁾	\$/oz	800	748	649
All-in sustaining costs	\$/oz	1,070	1,056	
Total production costs	\$/oz	1,034	981	833
Capital expenditure ⁽¹⁾	\$m	230	288	259
Productivity	oz/TEC	4.7	5.3	6.8
Safety and health				
No. of fatalities		5	8	2
All injury frequency rate (AIFR)	per million hours worked	13.52	13.38	14.05
No. of employees on ART		1,419	1,881	1,742
People				
Total average no. of employees		11,772	11,891	11,110
– Permanent		11,027	11,060	10,432
– Contractors		745	831	678
Environment ⁽²⁾				
Total water usage	ML	3,160	⁽³⁾ 4,501	5,249
Total water intensity per tonne treated	kL/t	0.90	1.53	1.54
Total energy usage	PJ	5.54	5.55	5.58
Total energy intensity per tonne treated	GJ/t	1.58	1.89	1.64
Total greenhouse gas (GHG) emissions (CO ₂ e) ⁽⁴⁾	000t	1,415	1,461	1,432
Total GHG emissions per tonne treated	t CO ₂ e/t	0.40	0.50	0.42
Cyanide used		1,544	0,913	0,866
No. of reportable environmental incidents		0	0	2
Total rehabilitation liabilities	\$m	16	40	43

⁽¹⁾ Restated for 2011 and 2012 in terms of adoption of IFRIC 20.

⁽²⁾ Environmental data includes consumption by Surface Operations' facilities located at the West Wits operations.

⁽³⁾ Restated.

⁽⁴⁾ The Eskom grid emission factor was revised by the National Business Initiative in consultation with Eskom. This led to a reduction in electricity-related emissions reported for 2011 and 2012. The data reported for 2012 included NUFCOR.

For more detailed information from an operational and sustainability perspective, please see the South Africa country fact sheet which is available at www.aga-reports.com.