

PERFORMANCE BY OPERATION continued

South Africa – underground operation Joel

		FY21	FY20	FY19
Number of employees				
– Permanent		1 823	1 883	1 867
– Contractors		209	131	115
Total		2 032	2 014	1 982
Operational				
Volumes milled	(000t) (metric)	359	349	429
	(000t) (imperial)	396	384	473
Gold produced	(kg)	1 424	1 391	1 567
	(oz)	45 783	44 722	50 379
Gold sold	(kg)	1 414	1 412	1 612
	(oz)	45 461	45 397	51 827
Grade	(g/t)	3.97	3.99	3.65
	(oz/t)	0.116	0.116	0.107
Productivity	(g/TEC)	63.97	64.01	78.1
Development results				
– Total metres		3 397	2 734	3 378
– Reef metres		1 806	832	1 288
– Capital metres		–	–	–
Financial				
Revenue	(Rm)	1 199	1 037	957
	(US\$m)	78	66	67
Average gold price received	(R/kg)	848 131	734 620	593 531
	(US\$/oz)	1 713	1 459	1 302
Cash operating cost	(Rm)	1 135	999	967
	(US\$m)	74	64	68
Production profit	(Rm)	75	27	(14)
	(US\$m)	5	2	(2)
Capital expenditure	(Rm)	172	151	187
	(US\$m)	11	10	13
Operating free cash flow ¹	(Rm)	(108)	(113)	(197)
	(US\$m)	(7)	(8)	(14)
Cash operating cost	(R/kg)	796 982	718 024	617 116
	(US\$/oz)	1 610	1 426	1 354
All-in sustaining cost	(R/kg)	936 296	826 970	701 644
	(US\$/oz)	1 891	1 642	1 539
Average exchange rate	(R/US\$)	15.40	15.66	14.18
Safety				
Number of fatalities		–	–	–
Lost-time injury frequency rate	per million hours worked	3.42	2.03	3.16
Environment				
Electricity consumption	(GWh)	88	85	87
Water consumption – primary activities	(MI)	907	853	838
Greenhouse gas emissions	(000tCO ₂ e)	92	90	80
Intensity data per tonne treated				
– Energy		0.25	0.24	0.2
– Water		0.92	2.44	1.95
– Greenhouse gas emissions		0.26	0.26	0.19
Number of reportable environmental incidents		–	–	–
Community				
Local economic development ²	(Rm)	4	6	4
Training and development	(Rm)	19	18	19

¹ Operating free cash flow = revenue – cash operating cost – capital expenditure as per operating results.

Joel continued

Other salient features	
Status of operation	Twin-shaft operation – technically challenging, decline project completed
Life-of-mine	Nine years
Nameplate hoisting capacity (per month)	60 000 tonnes (83 000 tons)
Compliance and certification	<ul style="list-style-type: none"> • New order mining right – December 2007 • ISO 14001 • ISO 9001 • SAS 18001.

Mineral Reserve estimates at 30 June 2021

Reserves (metric)	Proved			Probable			Total		
	Tonnes (Mt)	Grade (g/t)	Gold (000kg)	Tonnes (Mt)	Grade (g/t)	Gold (000kg)	Tonnes (Mt)	Grade (g/t)	Gold (000kg)
	2.6	5.00	13	1.5	4.50	7	4.1	4.82	20
Reserves (imperial)	Tons (Mt)	Grade (oz/t)	Gold (000oz)	Tons (Mt)	Grade (oz/t)	Gold (000oz)	Tons (Mt)	Grade (oz/t)	Gold (000oz)
	2.9	0.146	423	1.6	0.131	215	4.5	0.141	639

Overview of operations

Joel is a twin-shaft mining operation in the Free State, some 290km south-west of Johannesburg, on the southern edge of the Witwatersrand Basin.

A pre-developed scattered mining system is used. This enables unpay and geologically complex areas to be left unmined, while considering the overall panel configuration and stability of footwall development. This allows for mining to be selective, based on the proven ore reserve during the development phase. The primary economic reef mined is the narrow tabular Beatrix Reef deposit, accessed via conventional grid development. Mining is currently being conducted to a depth of 1 379m below collar. As the Joel plant was decommissioned in FY19, ore mined is now processed at the Harmony One plant.

Operating performance FY21

In FY21, gold production increased by 2% to 1 424kg (45 783oz) (FY20: 1 391kg, 44 722oz) while volume of ore milled rose 3% to 359 000 tonnes (FY20: 349 000 tonnes), despite a 1% decrease in the recovered grade to 3.97g/t (FY20: 3.99g/t). This was offset by higher productivity and improved mining efficiencies as the national lockdown did not interrupt operations in FY21.

The exceptional rise in the gold price by 15% to R848 131/kg (FY20: R734 620/kg) increased revenue to R1 199 million, which is also a 16% increase on R1 037 million in FY20. Cash operating costs rose 14% to R1 135 million (FY20: R999 million), mainly due to annual wage and electricity tariff increases. Capital expenditure was 14% higher at R172 million (FY20: R151 million), reflecting expenditure that was interrupted during the national lockdown in April 2020 and subsequent phased start-up of operations.

Joel had a fatality-free year, continuing its good safety record.

Another notable achievement during the year was completion of the 137 decline project in July 2021, which is expected to improve productivity in the 137 level from FY22. The decline project was initiated to extend the life of Joel by eight to nine years and is included in the current life-of-mine plan of nine years.

Outlook for FY22

The key focus areas in FY22 will be our development plan to open reserves, as well as ongoing exploration drilling to identify new reserves below 137 level and in the Klippan area. This is expected to increase volumes and grade output, resulting in a safe and profitable FY22.