

# OPERATIONS 2018 CONTINUED

## Joel

		FY18	FY17	FY16
<b>Number of employees</b>				
– Permanent		1 914	1 962	1 796
– Contractors		184	171	97
Total		2 098	2 133	1 893
<b>Operational</b>				
Volumes milled	(000t) (metric)	454	514	542
	(000t) (imperial)	501	567	597
Gold produced	(kg)	1 635	2 246	2 278
	(oz)	52 566	72 211	73 239
Gold sold	(kg)	1 656	2 280	2 245
	(oz)	53 242	73 303	72 179
Grade	(g/t)	3.60	4.37	4.20
	(oz/t)	0.105	0.127	0.123
Productivity	(g/TEC)	82.23	113.57	117.33
<b>Development results</b>				
Total metres		3 331	3 477	3 541
Reef metres		431	1 596	2 315
Capital metres		620	532	485
<b>Financial</b>				
Revenue	(Rm)	954	1 309	1 220
	(US\$m)	74	96	84
Average gold price received	(R/kg)	576 023	573 986	543 442
	(US\$/oz)	1 394	1 313	1 166
Cash operating cost	(Rm)	910	928	845
	(US\$m)	71	68	58
Production profit	(Rm)	34	373	389
	(US\$m)	3	27	27
Capital expenditure	(Rm)	250	243	215
	(US\$m)	19	18	15
Cash operating cost	(R/kg)	556 468	413 088	371 080
	(US\$/oz)	1 347	945	796
All-in sustaining cost	(R/kg)	661 921	477 484	424 617
	(US\$/oz)	1 602	1 092	911
<b>Safety</b>				
Number of fatalities		2	1	1
Lost-time injury frequency rate per million hours worked		2.87	2.54	3.49
<b>Environment</b>				
Electricity consumption	(GWh)	81	85	108
Water consumption – primary activities	(ML)	788	922	816
Greenhouse gas emissions	(000t CO <sub>2</sub> e)	79	84	109
Intensity data per tonne treated				
– energy		0.18	0.17	0.19
– water		1.74	1.79	1.50
– greenhouse gas emissions		0.18	0.16	0.19
Number of reportable environmental incidents		0	0	0
<b>Community</b>				
Local economic development	(Rm)	5	7	3
Training and development	(Rm)	23	20	15

## Joel *continued*

### Other salient features

Status of operation	Twin-shaft operation – technically challenging
Life of mine	9 years
Nameplate hoisting capacity (per month)	75 000 tonnes (83 000 tons)
Compliance and certification	New order mining right – December 2007 ISO 14001 – not certified but operates according to the standard's requirements ISO 9001 OHSAS 18001

### Mineral reserves as at 30 June 2018

Reserves (metric)	Proved reserves			Probable reserves			Total mineral reserves		
	Tonnes (Mt)	Grade (g/t)	Gold (000kg)	Tonnes (Mt)	Grade (g/t)	Gold (000kg)	Tonnes (Mt)	Grade (g/t)	Gold (000kg)
	2.5	4.74	12	1.8	5.33	9	4.3	4.99	21
Reserves (imperial)	Tons (Mt)	Grade (oz/t)	Gold (000oz)	Tons (Mt)	Grade (oz/t)	Gold (000oz)	Tons (Mt)	Grade (oz/t)	Gold (000oz)
	2.8	0.138	381	2.0	0.156	305	4.7	0.145	686

Joel is located in the Free State Province, about 292km from Johannesburg, on the southern edge of the Witwatersrand Basin. The mine comprises two shafts: North and South. The primary economic reef horizon is a narrow tabular Beatrix Reef deposit, which is accessed via conventional grid development. Mining is conducted to a depth of 1 452m. Ore mined is processed at the Joel plant.

Regrettably, there were two fall-of-ground fatalities in FY18.

Progress was made in the 137 decline capital project and is scheduled to be completed by January 2019. The decline project was initiated to extend the life of Joel by approximately eight years and is included in the current life-of-mine plan.

Joel's performance in FY18 was impacted significantly by the unavailability of mining areas due to geological intrusions (Klippan intrusion). This resulted in the mining of lower grade areas while development of 137 level and the required ore passes is underway. Development will continue in FY19, following which grades are expected to improve in FY20.

Gold production decreased by 27% to 1 635kg (52 566oz) in FY18. Recovered gold grades decreased by 18% to 3.60g/t (0.105oz/t), and further impacted by the 12% decrease in ore milled to 454 000 tonnes (501 000 tons). The decrease in production resulted in a 27% decrease in revenue to R954 million (23% decrease to US\$74 million).

Cash operating costs decreased by 2% to R910 million (increased by 4% to US\$71 million) largely as a result of the decrease in tonnages mined, offsetting increases in wages and electricity tariffs.

Capital expenditure increased by 3% to R250 million (increased by 6% to US\$19 million), mainly as the 137 decline project nears completion.