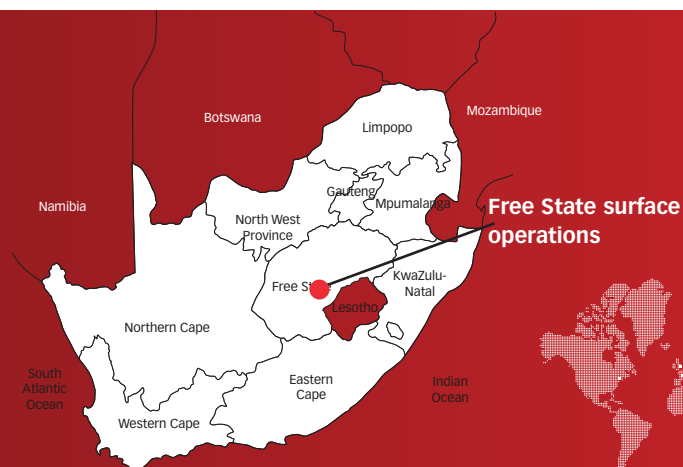


# Review of operations cont.

# 2009



## Free State surface operations

### Description

This currently comprises the Phoenix operation, which is located adjacent to Harmony's current and historical operations in Virginia in the Free State. Project Phoenix involves the retreatment of tailings to extract any residual gold from tailings storage facilities in the Virginia area.

### Mineral resources and ore reserves

At the end of June 2009, Phoenix reported ore reserves of 1.148 million ounces of gold and mineral resources of 1.192 million ounces. The operation's expected life is seven years. See page 118 to 120 for further details. St Helena reported ore reserves of 2.326 million ounces of gold and mineral resources of 2.327 million ounces. Other Free State surface operations reported ore reserves of 3.830 million ounces of gold and mineral resources of 5.928 million ounces.

	Mineral resources				Ore reserves		
	Measured	Indicated	Inferred	Total	Proven	Probable	Total
Oz (000)	6 459	1 500	1 488	9 447	6 459	845	7 304
Tonnes (Mt)	842.2	142.0	200.5	1 184.7	842.2	101.7	943.9
Grade (G/t)	0.24	0.33	0.23	0.25	0.24	0.26	0.24

### Safety

Safety at the Phoenix operations improved year-on-year. The LTIFR improved by 27% to 3.09 per million hours worked (FY08: 4.23). There were no fatalities.

#### Free State surface operations key statistics:

	Unit	FY09	FY08	FY07
<b>Production</b>				
Volumes milled	000t (metric)	5 965	6 378	2 148
	000t (imperial)	6 578	7 033	2 368
Gold produced	kg	695	1 002	664
	oz	22 345	32 215	21 346
Average grade	g/t	0.12	0.19	0.31
	oz/t	0.003	0.005	0.009
<b>Financial</b>				
Revenue	R million	175	191	94
	US\$ million	19	26	13
Cash costs	R/kg	154 426	75 784	67 854
	US\$/oz	534	381	293
Cash operating profit	R million	68	102	49
	US\$ million	8	14	7
Capital expenditure	R million	3	4	-
	US\$ million	-	-	-

## Year in review

Problems were experienced with lower-than-expected grades at one of the dams being processed on the Phoenix tailings retreatment programme. The mining plan was consequently amended, as a result of which grades are expected to increase in FY10.

Grades of tailings dam material are more variable, however, as the gold content is a function of the technology in use at the time the tailings were being deposited in the dam. The recovered grade in FY09 was 0.12g/t as compared to 0.19 g/t in FY08. Problems were also experienced regarding water availability and contractor labour issues. Tonnes produced therefore declined by 6% to 5 965 000 tonnes.

Costs increased significantly in FY09, to R154 426/kg (US\$534/oz), with some reagent costs rising by as much as 40%. A cash operating profit of R68 million (US\$8 million) was recorded. Capital expenditure during the year was R3 million.



## Rock dumps

Harmony currently has around 12 million tonnes of reserves in the form of rock dumps at its Free State operations and the company has begun a programme, run by metallurgical services, to mill and process these dumps as and when there is spare capacity available. The dumps have an estimated delivered grade of 0.80 g/t and an estimated recovery grade of 0.60g/t/.

Ore recovered on this programme for the year yielded 711 kilograms (22 900 ounces) of gold at a cost of R176 000/kg.

# Review of operations cont.

## Outlook\*

Phoenix is currently running at full production capacity (500 000 tonnes per month). The focus at this operation is on optimising efficiencies, grade and recoveries and thus profitability as well.

A pre-feasibility study into expanding monthly production capacity for the Phoenix project to 900 000 tonnes is in progress (to be completed by the end of September 2009). The expansion project currently has a life-of-mine of 16 years but, given the tailings dams and other resources available for retreatment, this has the potential to be extended to 20 years. The retreatment of tailings has significant potential and this technology will be applied to tailings dams in the Free State and Evander regions.

Volumes are expected to remain stable in FY10, but rising thereafter from FY11 onwards as the Phoenix Expansion project and the St Helena tailings project come on stream. Grade is expected to decrease in coming years owing to lower rock-dump volumes, and will be around 0.12 g/t in FY10. Cash costs\*\* of R161 000/kilogram (US\$556/oz) are expected from Phoenix and the rock-dump operation in FY10.

The planned capital expenditure\*\* for FY10 is R15 million (US\$1.94 million). This is mainly planned for major equipment maintenance and other project capital.

\* Please refer to the forward-looking statement on the inside front cover of this report

\*\* June 2009 money terms. The exchange rate as at 30 June 2009 of R7.72/US\$ has been used for all forward-looking conversions.

