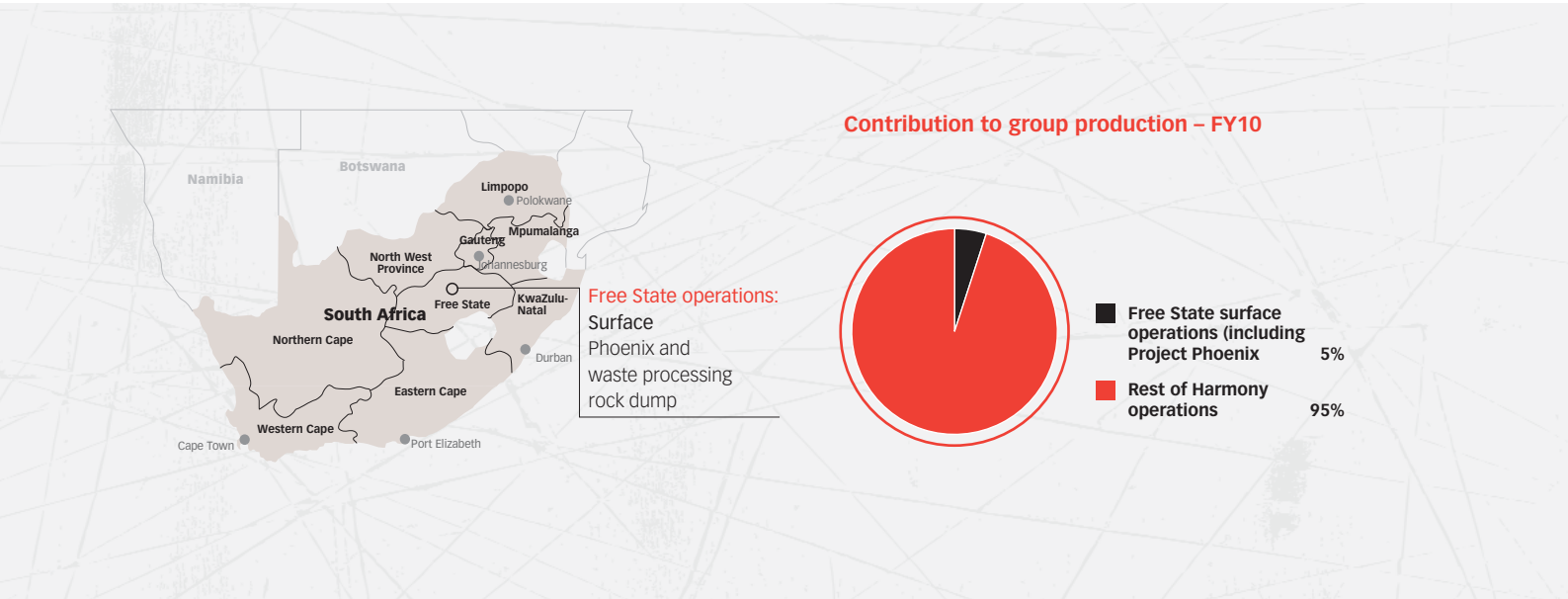


## Review of operations – South Africa – Surface Operations

### Free State Surface Operations (including Project Phoenix)



### Description

Harmony’s Free State surface operations comprise in the main the Phoenix project and the waste rock dumps processing programme.

- The Phoenix operation, located adjacent to Harmony’s current and historical operations in the Free State, involves the retreatment of tailings from tailings storage facilities in the region to extract any residual gold. The Phoenix operation makes use of the Saaiplaas plant, located next to the historic Saaiplaas 2 shaft area and in close proximity to the Masimong 4 shaft.
- Around 11 million tonnes of reserves are available in the form of rock dumps in the vicinity of the Free State operations. A programme, run by metallurgical services, to mill and process these dumps as and when there is spare capacity available, has begun.

Combined, these surface operations employed 321 in FY10, of whom 104 were employees and 217 contractors.

Detailed information on the surface operation’s resources and reserves are available in the *Mineral resources and mineral reserves* section of this annual report on pages 133 to 135.

### Safety

There were no fatalities at the surface operations in FY10. The Phoenix and surface operations achieved an LTIFR of 1.46 and 1.40 per million hours worked respectively for the year.

More detailed information on safety performance and Harmony’s sustainable development concerns in South Africa can be found in the online *Sustainable Development Report* on the corporate website, [www.harmony.co.za](http://www.harmony.co.za). A summary of this can be found on pages 26 to 46 of this annual report.

## Free State Surface Operations key statistics

Production		FY10	FY09	FY08
Volumes milled	000t (metric)	<b>7 062</b>	5 965	6 378
	000t (imperial)	<b>7 787</b>	6 578	7 033
Gold produced	kg	<b>1 639</b>	695	1 002
	oz	<b>52 693</b>	22 345	32 215
Average grade	g/t	<b>0.23</b>	0.12	0.19
	oz/t	<b>0.007</b>	0.003	0.005
Financial				
Revenue	R million	<b>442</b>	175	191
	US\$ million	<b>58</b>	19	26
Operating costs*	R/kg	<b>170 041</b>	154 426	75 784
	US\$/oz	<b>698</b>	534	381
Operating profit	R million	<b>147</b>	68	102
	US\$ million	<b>19</b>	8	14
Capital expenditure	R million	<b>5</b>	3	4
	US\$ million	<b>1</b>	–	–

\* Includes royalty payment in FY10



Project TPM, South Africa

## Review of operations – South Africa – Surface Operations

### Free State Surface Operations (including Project Phoenix) cont.

#### Operations review

Combined the Free State surface operations processed 7Mt which yielded 1 639 kilograms (52 693 ounces) of gold. Of this, the Phoenix project accounted for 647 kilograms (20 801 ounces), the waste rock dump programme and other surface operations in the Free State accounted for the balance. Recovered grades of 0.12g/t and 0.64g/t were achieved respectively by Project Phoenix and the waste rock programme and surface operations.

Project Phoenix, which began three years ago, involves the retreatment of 6 million tonnes annually (500 000tpm) at plant capacity. Plans are being considered to increase tonnages processed to up to 900 000tpm, at which rate the life of the project is around 12 years. This is a function of the current deposition capacity. Should the permitted deposition capacity increase within this period, additional resources will be available for retreatment.

Extensive sampling has been done at the water-based tailings dams which are available for retreatment in the Free State, located mostly between the Bambanani and Unisel operations, as well as in the area of the Merriespruit shafts. There are currently a total of seven dams that have been identified and those will be processed through the Steyn, Central and Target gold plants over the next few years.

#### Financial review

Project Phoenix's cash operating cost for the year was R185 762/kg, up by 20%. Ore recovered from the waste rock programme and surface operations yielded 992 kilograms (31 924 ounces) of gold at a cost of R159 787/kg for the year. Combined, these surface operations generated revenue of R442 million.

#### Outlook\*

Combined, it is estimated that volumes processed at the Free State surface operations will increase to 9Mt in FY11, excluding the expansion to the Phoenix Project and the St Helena tailings retreatment project which are not included in the plan. The Phoenix recovery grade is expected to increase from 0.12g/t to 0.13g/t when dam 21 is commissioned towards the end of 2010/beginning 2011, to replace dam 22 which is nearing depletion. The grade of other surface sources is expected to increase from 0.71g/t to 1.01g/t due to the higher grades expected from the retreatment of the water-based tailings dams.

Cash costs\*\* of R169 633/kg (US\$691/oz) and R138 428/kg (US\$564/oz) are estimated for the year for Project Phoenix and the waste rock programme and surface source operations respectively.

Planned capital expenditure for the Free State surface operations as a whole is R78 million, to be spent on the commissioning of Dam 21, the rehabilitation of equipment, feed dewatering of cluster cyclones, residue flotation testing and to expand the CIL section to a sixth stage for the Phoenix operation. Capital will also be spent on surface sources for slimes dam repairs, site establishment and the commissioning of the dredging projects.

\* Please refer to the forward-looking statements

\*\* June 2010 money terms. The exchange rate of R7.63/US\$ as at 30 June 2010 has been used for all forward-looking conversions.