

# GEARING FOR GROWTH

A review of operations and projects

The major restructuring programme embarked on in FY05 has had a significant impact on our operations. This programme, a result of the low gold price and relatively strong rand which had been experienced for some time, led to the closure of a number of our operations/shafts which had very low margins and in most cases were at the end of their natural reserve lives. The restructuring programme also led to a significant reduction in our labour complement and the re-deployment of people. The restructuring process which began in April 2004 was only completed by October 2005.





## Review of operations

A significant feature of FY06 was the implementation of continuous operations or Conops at all the operations where this system is feasible – namely at Evander, Tshepong, Masimong 5, Bambanani, Elandsrand and Randfontein. Conops refers to the practice of operating a mine for every day of the year except for the 12 official public holidays as well as the period between Christmas and New Year. Historically, mining companies in South Africa have operated only on 273 days of the year (that is, excluding every second Saturday, Sundays and all public holidays). With Conops, employees work on a roster basis, ensuring that the assets are worked for 95% (rather than 75%) of the year, and allowing more people to be employed at the same shaft. Given that it takes time to put Conops into effect and to train employees, the full benefit of Conops only started to flow through to operational results towards year end.

Another fundamental change that was effected during the year was the capitalisation of development costs. Historically, ongoing or replacement development cost formed part of operating cost. The change not only had the effect of reducing the operating cost profile on the one hand, but also resulted in better evaluation of individual development decisions. The effect of the change was a reduction of R659 million in operating cost for FY06 (FY05: R595 million).

## Group performance

In the 2006 financial year, gold produced declined by 20% to 74 242kg (2 386 925oz). The average gold price received was R108 268/kg (US\$529/oz), an increase in rand terms of 28% on the previous year, and a 24% rise in dollar terms. The average rand/dollar exchange rate was R6.36/US\$ compared with R6.18/US\$ the previous year. It reached R7.17/US\$ at year end.

Cash operating costs were up by 18% to R88 629/kg (or by 14% to US\$433/oz) which is a creditable performance when considering the decrease in gold production. This increase was also affected by an increase in wages of between 6% and 7% with effect from 1 July 2005 as a result of the two-year wage agreement reached with the unions in August 2005.

Employee numbers were also significantly reduced year-on-year, to approximately 44 000 people. While a further 3 250 jobs were lost during the restructuring process in FY05/FY06, an additional 1 710 jobs were created through Conops.

Underground working costs increased year-on-year by 17% to R349/t. These costs are a significant measurement for Harmony as they represent a better reflection of those elements that are under the company's control. Operating profit margin increased to 18% while cash operating profit rose by 68% to R1 459 million (US\$229 million), both having felt the impact of the rising gold price and the slightly weakening rand, and are highly illustrative of Harmony's gearing.

Capital expenditure in FY06 amounted to R1.69 billion (US\$266 million), of which 33% (R561 million; US\$88 million) was allocated to the five growth projects in support of our robust project pipeline. In line with the company's policy of accounting for the capitalisation of mine development, there was a significant (R659 million; US\$103 million) decrease in operating costs and a commensurate increase in the figure for capital expenditure.

### CAPITAL EXPENDITURE (R million)

Entity	FY06
<b>Operational capex</b>	
South Africa	946
Australasia	181
Total	1 127
<b>Project capex</b>	
Doornkop South Reef	147
Elandsrand new mine	119
Tshepong North decline	53
Phakisa Shaft	147
Hidden Valley, PNG	95
Total	561
<b>Total capex</b>	<b>1 688</b>

## South African operations

The South African underground operations are treated as three separate reporting entities for management and reporting purposes. We have found this system to be very effective as, among other things, it allows for different management styles and capital allocations.

These three entities are:

- the Quality Assets, which typically have a larger reserve base and hence a longer life. These form the core of the group's operations;
- the Leveraged Assets are those that provide significant upside in the event of a rising gold price (as has been evident in the latter part of FY06); and
- the Growth projects, which comprise the expansion projects/new mines currently being constructed in South Africa.

In addition there are a number of surface operations, including Kalgold.



"The overall effect of Conops is to reduce unit costs"

## Our Quality Assets

The Quality Shafts, which include Target, Tshepong, Masimong 5, Evander and Randfontein's Cooke shafts, together produced 35 495kg (1.14Moz of gold) in FY06, a decrease of 17% from the previous year. Tonnes milled declined by 9% year-on-year. Volumes were negatively affected, mainly as a result of days lost to the industry (through public holidays, the wage strike in the first quarter and the Cosatu strike in the fourth quarter) and lower underground volumes.

Grade decreased by 9% to 5.74g/t from 6.33g/t in the previous year. Cash operating costs rose to R78 382/kg, an increase of 25%, mainly as a function of the reduced volumes. In dollar terms, cash operating costs rose by 21% to US\$383/oz. Aided by rising metal prices in rand terms, the working profit for the Quality Assets rose by 14% to R1.078 billion.

As part of the National Union of Mineworkers' agreement signed on 19 July 2005, Conops was re-introduced at Tshepong and Bamabanani mines in the second quarter, while the implementation of Conops at Masimong 5 started during the third quarter. The effect of Conops is to increase profitability in the longer term as higher volumes have a positive impact on unit costs and the bottom line.

### OUR QUALITY ASSETS – Key statistics

Operational statistics		FY06	FY05
Tonnes milled	000 tonnes	6 179	6 772
Grade recovered	g/t	5.74	6.33
Gold produced	kg	35 495	42 866
	oz	1 141 157	1 378 174
Cash operating costs	R/kg	78 382	62 882
	US\$/oz	383	316
Financial statistics			
Revenue	R million	3 860	3 638
Cash operating cost	R million	2 782	2 695
Working profit/loss	R million	1 078	943
Capex	R million	570	500
Exchange rate	R/US\$	6.36	6.18

### Target

For most of FY06, Target continued to struggle with flexibility and machine availability. To address the problems related to machine availability (and hence the low development rates) a large number of the mechanised fleet was replaced during the year at a cost of some R7.4 million. We also took a decision to undertake vehicle maintenance in-house, concluding our contract with the former contractor in December 2005. We have managed to successfully effect the transition since then, albeit at a start-up cost. We are fortunate to have attracted a good quality skills base for this function in the midst of an industry-wide skills shortage. Towards year end, the mine was in a better position with respect to grade flexibility as more access points to the orebody had been opened up, facilitating an increase in production in the higher grade stopes to compensate for the lack of

volumes. Nonetheless, an accelerated development programme has been put in place, with development rates in excess of 1 000m/month planned for FY07.

The net effect of this challenging year was a decrease in tonnages milled, from 1.1Mt in FY05 to 737 000t in FY06, while the overall grade decreased to 6.34g/t. Gold production at Target consequently declined by 28% year-on-year to 4 672kg (150 196oz). Operating costs increased by 35% from R52 230/kg to R70 699/kg or, in US dollar terms, to US\$345/oz. Cash operating profit decreased by 14% to R187 million (US\$29 million). Capital expenditure – of some R61.3 million (US\$10 million) – was spent mainly on the development of the orebody and on the replacement of the mechanised fleet. This mine is set to dramatically improve its performance over the next two years.

### Tshepong

Following the introduction of Conops at Tshepong in the second quarter of the year, this mine is now operating at full capacity and is performing at a consistently high level. Tonnes milled rose by 5% to 1.620Mt, although recovered grade declined by 16% to 6.44g/t. Gold production decreased by 12% to 10 429kg (335 289oz). Cash operating costs – at R68 011/kg or US\$333 – were well contained and, combined with the higher gold price received, resulted in a cash operating profit of R434 million (US\$68 million). Capital expenditure amounted to R97 million (US\$15 million) on current Tshepong operations and R53 million (US\$8 million) on the Tshepong decline project.

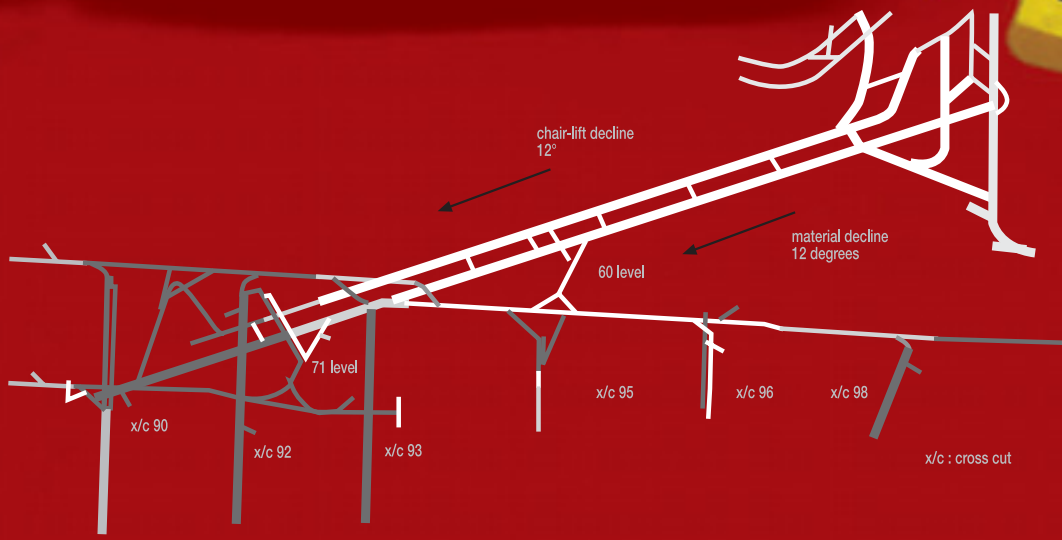
*"Tshepong is now operating at full capacity"*



FREE STATE PROVINCE, SOUTH AFRICA

# Tshepong Decline Project

The Tshepong decline project involves an extension at depth of the mine from the current shaft bottom to a depth of some 2 200m, through the construction of a 1 200m twin decline system.



**KEY DATES**

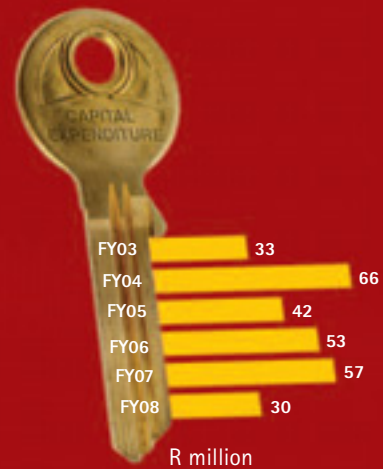
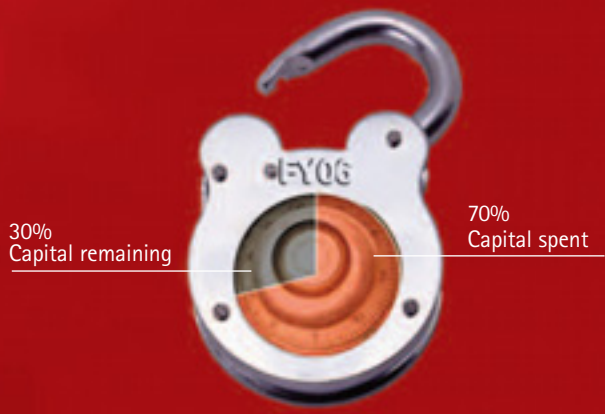
Project start	April 2003
Expected completion	February 2008
<b>EXPECTED ANNUAL PRODUCTION</b>	5 350kg 172 000oz gold
<b>CAPITAL EXPENDITURE</b>	R280.4 million US\$42.94 million

**LIFE OF MINE**

Years	13
Tonnes milled	6.103 million
Grade (average reserve)	7.21g/t
Life-of-mine ounces	1.4Moz

**Financial evaluation at a gold price of R105 000/kg**

NPV at 7.5%	R738 million US\$116 million
IRR	32.4%





## Tshepong Decline Project cont.

### Progress during the year:

Development of the Tshepong decline project continued during the year, although poor ground conditions resulted in delays. Capital expenditure for FY06 was below budget at R53 million (US\$8.33 million), as opposed to the R81 million (US\$12.73 million) planned mainly as a result of slower build-up of equipment for new levels; slower development rates due to decline layout changes as a result of the poor ground conditions; and tighter budget controls on major engineering items and maintenance.

A total of 8 024m out of 11 800m development (68%) of the project had been completed by the end of the financial year. The following progress is reported:

#### Chair-lift decline

75% of the 900m of required development has been completed. Scaling of the left-hand sidewall, a result of bedding planes and parallel faulting, caused in poor ground conditions and, on the rock engineer's recommendation, shotcrete and

long anchor are being installed. Development in this end was delayed for two months but an additional holding will give the opportunity to continue with the chair-lift and belt level simultaneously.

#### Material decline

Some 85% of the 1 000m of required development has been completed. Poor ground conditions in the decline meant that new support solutions and a new blasting technique had to be investigated and implemented. The insertion of long anchor supports over the total length of the decline, from the boxhole up to the face, delayed the face advance while the presence of large rocks, dislodged because of the poor ground conditions, resulted in slow cleaning cycles. The effects of the changed support system and the new blasting technique resulted in a two-month delay. These changes have, however, resulted in a significant reduction in risk during excavation and for the duration of the operational life of the decline.

#### 69 Level

Development on the 69 level station is 88% complete. The rehabilitation of a fall of ground of 23m has delayed the south haulage development by 90 days (some 180m). A bypass haulage has been developed around the affected area.

#### 69 level reef and inclined waste development

Development, which is currently being undertaken on six raise lines, is on schedule.

#### 71 level access development

Of the development on 71 level, 66% has been completed. The level is being prepared for permanent construction that will be completed by the first quarter of the new financial year when access development will continue on 71 level.





"A specialist mining team has been deployed to address the mine call factor at Masimong 5"

### Masimong 5

Masimong 5's financial performance improved during the year under review, although tonnes milled dropped marginally by 2.5% to 925 000t. Grade decreased, however, by 13% to 4.58g/t, with a knock-on effect on operating costs which were R100 018/kg (US\$489/oz). A specialist mining team has been deployed at the mine to address the mine call factor and to assist in returning the recovered grade to the planned levels of about 5.5g/t. Production decreased by 15% to 4 235kg (136 153oz). The net effect was a cash operating profit of R40 031 million (US\$6 295 million) for the year. Capital expenditure for the period was R92 million (US\$15 million), mainly spent on orebody development. It has become clear that further investment in infrastructure is necessary at this mine, specifically with regard to environmental conditions.

### Evander operations

The Evander shafts delivered a steady performance for the year. As expected, the abnormal high grade at 7 shaft came to an end towards mid-year and subsequently grades returned to expected lower levels. The sill intrusion at Evander 7 shaft from the third quarter of the year also had an impact on production. During the June quarter the operations of Evander 2 and 5 were combined with all production from the two shafts being hoisted from Evander 5, thus realising cost synergies. Overall, underground tonnage decreased by 9%, from 1 703 000t to 1 541 000t, although gold production fell by 27% to 8 536kg (274 438oz). Working costs increased during the year to R82 432/kg (US\$403/oz). The higher received gold price led to a working profit of R199 million (US\$31 million), a decrease of R58 million on FY05.

### Randfontein's Cooke section

Randfontein's steady performance was slightly disrupted by the move of the milling process from Cooke plant to Doornkop as part of the long-term strategy. The Doornkop plant is much larger and more efficient and will result in reduced costs.

As anticipated, underground tonnage decreased from 1 509 000t to 1 356 000t. As a result, gold production decreased marginally by 2% to 7 623kg (245 089oz) and working costs rose by 4% to R80 706/kg (US\$395/oz). Working profit of R218 million (US\$34 million) increased by 287% on the back of a higher gold price.

## Our growth projects

Our growth assets represent our company's future engines of production and include the Elandsrand and Doornkop mines and their projects, as well as the Phakisa project.

Although good progress continued to be made at the growth shafts during the year, gold production decreased during the period mainly as a result of a lack of flexibility. Gold production decreased by 18% to 6 671kg (214 461oz). This follows a decline in volumes (tonnes milled) of 3% to 1 362 000t. Cash operating costs rose by 26% to R108 437/kg (US\$530/oz) while total cash operating costs at R724 million (US\$114 million) were 4% higher.

## OUR GROWTH ASSETS – Key statistics

Operational statistics		FY06	FY05
Tonnes milled	000 tonnes	1 362	1 401
Grade recovered	g/t	4.90	5.77
Gold produced	kg	6 671	8 089
	oz	214 461	260 072
Cash operating costs	R/kg	108 437	85 727
	US\$/oz	530	431

Financial statistics			
Revenue	R million	721	687
Cash operating cost	R million	724	694
Working loss	R million	(3)	(7)
Capex	R million	507	454
Exchange rate	R/US\$	6.36	6.18



## Elandsrand

Elandsrand remains focused on the completion and commissioning of the new mine project, but in the interim produces from the upper, older section of the existing mine. Production at this operation decreased by 18% to 5 315kg (170 867oz) for the year, from 895 000t milled. This decrease was, however, largely driven by a 15% decrease in grade to 5.94g/t. Operating costs increased by 26% to R106 981/kg or US\$523/oz. In the longer term, the commissioning of the new mine will alleviate the continued flexibility problems being experienced at Elandsrand, and allow the operation to reach its full potential.



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# Elandsrand New Mine Project

The project involves the development of a 'new mine', beneath the original Elandsrand mine, at depths of between 3 000m and 3 600m. Started by AngloGold Ashanti in 1991, the project was restarted by Harmony in FY01 following the purchase of Elandsrand in February 2001. The new mine will exploit the southern, deeper portion of the higher grade VCR payshoot.

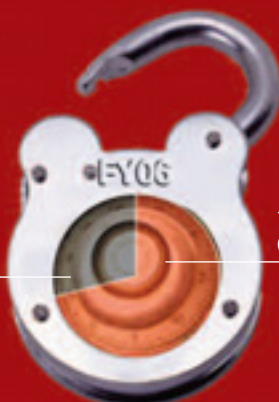
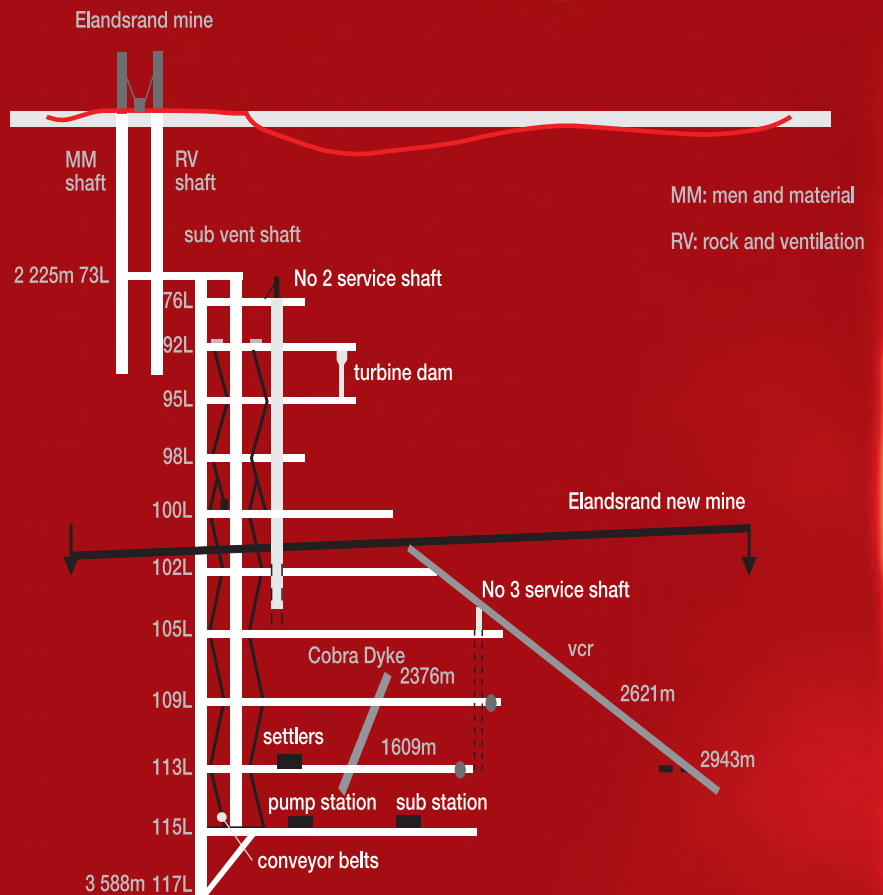


### KEY DATES

Project start	May 2001
Expected completion	Dec 2010
<b>EXPECTED ANNUAL PRODUCTION</b>	13 850kg of gold 445 000oz of gold
<b>CAPITAL EXPENDITURE</b>	R805.7 million
<b>LIFE OF MINE</b>	
Years	22
Tonnes milled	28.2 million
Grade (average reserve)	7.71g/t
Life-of-mine ounces	6.99 million

### Financial evaluation at a gold price of R105 000/kg

NPV at 7.5%	R2 271 million
IRR	23%



29% Capital remaining

71% Capital spent



FY01	36	107
FY02		106
FY03		106
FY04		96
FY05		119
FY06		141
FY07	70	
FY08	20	
FY09	5	
FY10		

R million

## Elandsrand New Mine Project cont.

### Progress during the year:

Good progress was made with this project during the year:

#### Infrastructure

The mid-shaft loading arrangement on 100 level was de-commissioned with the holing of the transfer ore passes. This allows all reef and waste from above 100 level to be sent down and hoisted to the new loading set-up and conveyer belts on 115 level. The commissioning of the 102 level booster fan has allowed the return airway (RAW) on 105 level to be converted into an intake airway. The main sub-station on 113 level was commissioned and installed during the year.

The centre hole of the turbine dam (between 92 and 95 levels) was raise-bored during the

second quarter, and the 14m-diameter dam was 13m deep by year end. The sinking of the No 2 service shaft progressed to 48m from 105 level, while the winder chamber for the No 3 service shaft was completed. This allows for the centre hole of the shaft to be raise-bored when 109 level reaches the proposed shaft position, preparing the way for the installation of the headgear and winder.

#### Access development

Haulage and return airways on 109 and 113 levels continued to progress well, despite a six-month stoppage at 113 level owing to methane being expelled from the transition zone after traversing the Cobra Dyke. Both levels combined managed to achieve 3 647m.

#### Stoping/development in project area

- 102 level – ongoing capital development continues in both easterly and westerly directions. The 31, 37 and 38 raise lines were holed with stoping operations taking place in the 34, 35, 36, 37 and 38 raise lines.
- 105 level – ongoing capital development continues in both easterly and westerly directions. The 31, 32 and 33 raise lines were holed during the year with stoping progressing on all three raise lines.



### Doornkop

Volumes declined at Doornkop, by 2% to 467 000t milled, and grade in the Kimberley Reef decreased by 16% to 2.9g/t. As a result, gold production at this operation decreased by 17% to 1 356kg (43 593oz). Operating costs rose by 28% to R114 145/kg or US\$558/oz. The Doornkop South Reef project is similar to the situation at Elandsrand, where mining continues in the old, upper areas of the mine. The project, which involves the deepening of the existing shaft, will exploit the higher grade South Reef payshoot from the existing shaft which is being deepened to 1 973m.



GAUTENG PROVINCE, SOUTH AFRICA

# Doornkop South Reef Project

The project involves the deepening of the Doornkop mine shaft to 1 973m to mine the South Reef and development towards the mining areas. The South Reef lies between 1 650m and 2 000m below surface; the upper levels of the shaft are currently accessing the lower grade Kimberley Reef, which lies between 900m and 1 100m below surface. This project is a joint venture with African Vanguard Resources (AVR), our BEE partner – the ownership split is Harmony 74%, AVR 26%.

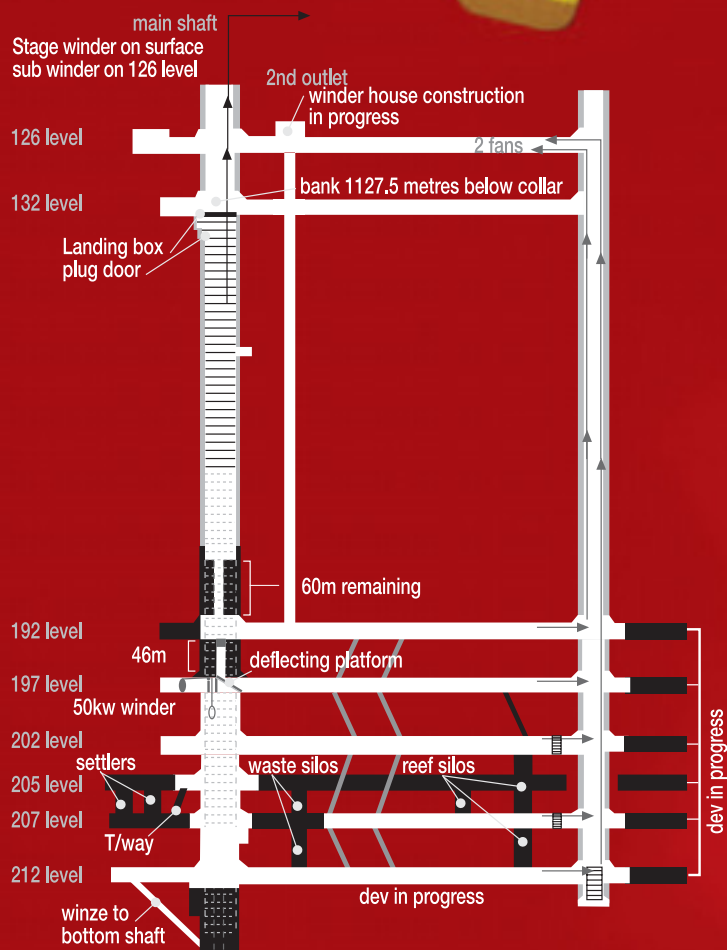


### KEY DATES

Project start	January 2003
<b>EXPECTED COMPLETION</b>	June 2010
<b>EXPECTED ANNUAL PRODUCTION</b>	340 000oz of gold
<b>CAPITAL EXPENDITURE</b>	R1 103 million
<b>LIFE OF MINE</b>	
Years	11
Tonnes milled	14.5 million
Grade (average reserve)	6.6g/t
Life-of-mine ounces	2.96 million

### Financial evaluation at a gold price of R105 000/kg

NPV at 7.5%	R892 million
IRR	+50%



## Doornkop South Reef Project cont.

### Progress during the year:

Substantial progress was made during the year on this key project:

#### Sinking operations

These continued at Doornkop during the year with two separate sinking operations at different elevations in the same shaft. The top portion of the sinking operation has now progressed to 60m away from 192 level, with the bottom portion of the sinking operation completed up to 212 level. Shaft sinking should be concluded in the third quarter of FY07.

The sub-vertical shaft was modified into a dual conveyance shaft during FY06,

increasing the hoisting capacity to 30 000tpm. This will speed up access development as well as facilitate the development of exploration drilling platforms. Capital has been approved for a long-hole exploration drilling programme on 106 level. This programme will allow for the further conversion of resources to reserves, as well as confirming the geological structure, thereby ensuring optimal development layouts.

#### FY06 development

- 2 281m were developed.
- Access development continued on 192, 197 and 202 levels.

- In-circle development around 202, 207 and 212 stations continued.
- The upper and lower portions of the main shaft were sunk 321m and 153m respectively.

#### Commissioning

A commissioning team was put in place to identify best-industry practices and introduce these in all areas of the South Reef mine.





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# Phakisa Shaft Project

The project involves the establishment of infrastructure and the sinking and equipping of a primary shaft to a depth of 2 427m below surface. The mine will have five production levels (66, 69, 71, 73 and 75 levels) where access development will take place. 75 level will be host to a 1 500m, 9° twin decline, with another five levels (77, 79, 81, 83 and 85), where access development will be done towards the reef horizon.

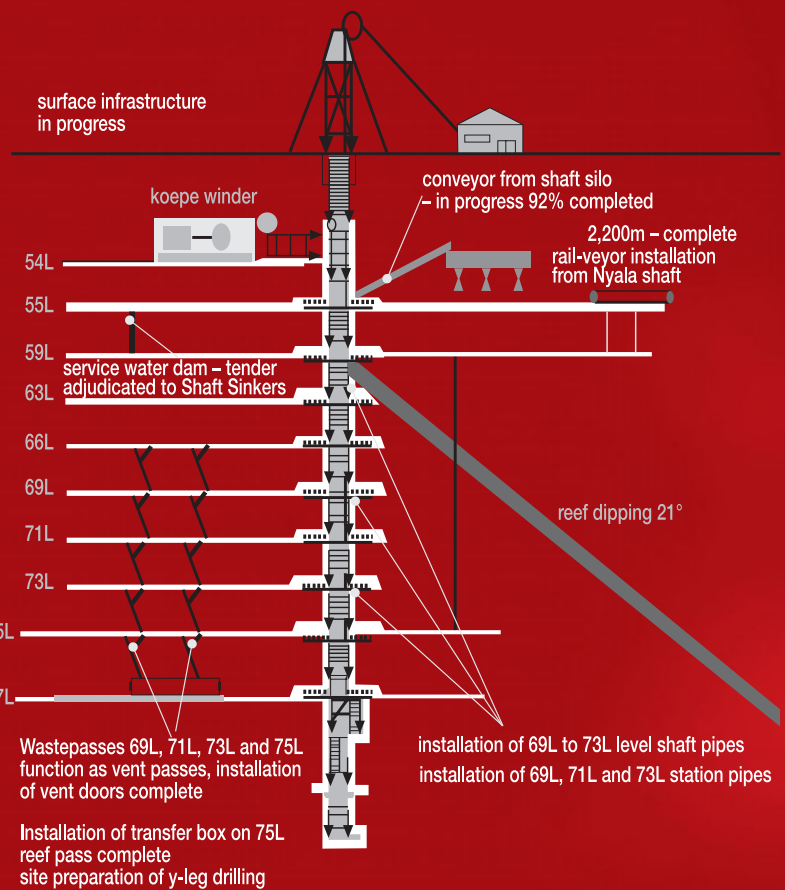
The project was started in October 1993 and sinking started during February 1994. Under the previous ownership, activity was suspended during May 1999 at 2 357.9 below collar. The shaft was part of the Freegold acquisition of AngloGold assets in 2002 and was re-established in July 2003.

### KEY DATES

Project start	July 2003
Expected completion	February 2009
Expected production start date	May 2008
<b>EXPECTED ANNUAL PRODUCTION</b>	281 760oz
<b>EXPECTED RECOVERY GRADE AT FULL PRODUCTION LEVELS</b>	8.11g/t
<b>EXPECTED AVERAGE MONTHLY REEF TONS</b>	90 000 t
<b>CAPITAL EXPENDITURE</b>	R750 million
<b>LIFE-OF-MINE</b>	
Years	21
Tonnes milled	19.67 million
Grade (average reserve)	8.33g/t
Life-of-mine ounces	5.27 million

### Financial evaluation at a gold price of R105 000/kg

NPV at 7.5%	R2 348 million
IRR	31%



## Phakisa Shaft Project cont.

**Progress during the year:****Main shaft**

Good progress was achieved during the year.

The stripping of all sinking equipment from 77 level to surface, and the changeover of surface headgear to permanent structure, were both completed on 2 July 2005.

The equipping of the shaft from surface to 55 level ran concurrently with the installation of the Koepe Winder, both of these projects were completed in December 2005.

The installation of station steel on levels 55, 59, 63, 66, 69, 71, 75 and 77, and the equipping buntons and guides from level 55 to level 77, was completed on 4 May 2006.

**On-level construction**

Access to all levels enabled the continued installation of shaft pipes from 55 level to 73 level; station civil construction on 73, 75 and 77 levels; and the installation of water control, sling and rock-handling equipment to 77 level, including loading flask, conveyor, crusher and Y-Leg drilling equipment.

**Rail conveyer**

The Railveyor pilot plant was installed on surface at Nyala and rigorously tested over a 10-month period to determine possible failures, maintenance requirements and costs. In April 2006, installation of the conveyance over 5km commenced on 55 level, between Phakisa and Nyala. The commissioning date is set for October 2006.



"The leveraged assets underwent significant restructuring during the year"

## Our Leveraged Assets

Typically, Harmony's Leveraged Assets are older and of a lower grade than those of our quality operations. However, the shafts included in these assets frequently have significant resources. As these shafts are highly leveraged to an upturn in the gold price, they are able to provide increased profits at the right time. These shafts include: Bambanani, Joel, West, St Helena, Harmony 2, Merriespruit 1 and 3, Unisel and Brand 3, in the Free State; and the Orkney 1, 2 and 7 shafts in North West Province.

These shafts underwent significant restructuring during the year, with a focus on improving the quality of production, and the benefits from this have started to be felt, particularly at Bambanani, Merriespruit 1, Unisel, Harmony 2 and West shaft. The Orkney 2 shaft pillar was successfully mined out during the third quarter. The North shaft project at Joel mine, which has created two more operating levels, will ensure that the mine will maintain and improve volumes going forward.

Tonnes milled declined by 15% to 4.6Mt, while the average grade achieved was 4.6g/t, a decrease of 4%. Consequently, gold production was down by 19% to 21 258kg (683 453oz), while cash operating costs decreased marginally to R100 779/kg (US\$493/oz).

The above resulted in a working profit of R157 million on the back of a much improved gold price and increased focus on quality of production.

### OUR LEVERAGED ASSETS – Key statistics

Operational statistics		FY06	FY05
Tonnes milled	000 tonnes	4 644	5 435
Grade recovered	g/t	4.6	4.8
Gold produced	kg	21 258	26 166
	oz	683 453	841 247
Cash operating costs	R/kg	100 779	95 215
	US\$/oz	493	479
Financial statistics			
Revenue	R million	2 299	2 214
Cash operating cost	R million	2 142	2 490
Working loss/profit	R million	157	(276)
Capex	R million	245	215
Exchange rate	R/US\$	6.36	6.18

## South African surface operations

The Kalgold opencast mine in North West Province makes up the bulk of the reported gold produced under surface operations within Harmony, although there are a number of surface operations at other mines and shafts. Tonnages decreased from 5 923t to 3 612t during the year, with recovered grades steady at 1g/t. As a result, gold production decreased to 3 619kg (116 380oz).

Not reflected in the performance statistics is the fact that the Kalgold plant throughput increased to a record monthly tonnage of 168 422t during April 2006. The higher tonnage is important as it will



assist the viability of the A Zone pit. During September 2005, trial mining began at A Zone to augment reef tonnages from D Zone. However, the higher gold price has enabled the fourth and final cut back of the D Zone. Work on this began during the course of the last year and should be completed by the end of 2006. This will then see the start of a very profitable final phase of mining from this open-pit mine over the next 18 months.

Cash operating costs rose 13% to R87 090/kg (US\$426/oz), while working profit increased by 60% to R64 million or US\$10.06 million.

### OUR SOUTH AFRICAN SURFACE OPERATIONS – Key statistics

Operational statistics		FY06	FY05
Tonnes milled	000 tonnes	3 612	5 923
Grade recovered	g/t	1.0	1.0
Gold produced	kg	3 619	5 876
	oz	116 380	188 937
Cash operating costs	R/kg	87 090	76 996
	US\$/oz	426	388

Financial statistics			
Revenue	R million	379	495
Cash operating cost	R million	315	455
Working profit	R million	64	40
Capex	R million	84	34
Exchange rate	R/US\$	6.36	6.18



## Australasian operations

Harmony's Australian and Papua New Guinea (PNG) operations and interests comprise:

- the Mt Magnet and South Kal mine open-pit and underground operations in Western Australia;
- the Hidden Valley project in PNG; and
- development and exploration projects in Western Australia, at the Mt Magnet and South Kal operations, and in PNG at Wafi Golpu, Moa Creek, Kerimenge, Kesiago and Bawaga. These are dealt with under the exploration section of the report on pages 44 to 47.

### OUR AUSTRALIAN OPERATIONS – Key statistics

Operational statistics		FY06	FY05
Tonnes milled	000 tonnes	3 082	3 754
Grade recovered	g/t	2.3	2.5
Gold produced	kg	7 199	9 233
	oz	231 460	296 846
Cash operating costs	R/kg	85 694	67 117
	US\$/oz	419	338
Financial statistics			
Revenue	R million	780	777
Cash operating cost	R million	617	619
Working profit	R million	163	158
Capex	R million	276	247
Exchange rate	R/US\$	6.36	6.18
	R/A\$	4.79	4.68

The Australian operations had a challenging production year. The production profile of these operations declined as a result of reduced underground production for six months at Mt Magnet (the period between the closure of the Star underground mine in June 2005 and the successful commissioning of the St George underground mine in December 2005), less open-pit feed stock at Mt Magnet, and the cessation of open-pit mining at South Kal Mines in June 2005. Production was further negatively affected by a seismic event at the Hill 50 mine at Mt Magnet which interrupted production for 38 days and by adverse ground conditions at Mt Marion underground operations. As a result of the above factors, production decreased to 7 199kg (231 460oz) from 9 233kg (296 846oz) the previous year.

However, with the successful commissioning of the St George underground in December 2005 at Mt Magnet, and its subsequent good performance, as well as the discovery and conversion from resource to reserve of the Shirl open pit at South Kal mines, (which will result in open-pit mining restarting in FY07), we expect the Australian operations to return to sustainable quarterly production levels of approximately 2 021kg (65 000oz).

Recovered grade declined by 8% as a result of 870 000t of low grade stockpiles being treated at South Kal Mines during FY06 while exploration activities continued with the aim of identifying alternative open-pit feed stock. With the discovery of Shirl open pit at South Kal Mines, we expect

recovered grade to improve, as low-grade feed stocks will be replaced by open pit mined ore. Cash operating costs increased significantly to R85 694/kg as a higher percentage of annual production was sourced from underground (more expensive) sources than in the previous year. Mining contractor prices (underground and open pit) also increased significantly during the year as a result of the commodities boom in Western Australia.





Capital expenditure rose by 12% to R276 million (A\$58 million), mainly as a result of the opening up of the St George decline at Mt Magnet, and continued expenditure on the Hill 50 decline.

The Australian operations generated an operating profit of R163 million (A\$34 million) for the year compared to R158 million (A\$34million) the previous year. Given that the production profile declined substantially, this financial performance was a direct result of the 25% increase in the gold price received per ounce in Australian dollars.

### Mt Magnet

Mt Magnet produced 4 629kg (148 822oz) of gold from the processing of 1 739 053t of underground and open-pit ore and low-grade stockpiles during the year.

Rib and crown pillars have been redesigned which have resulted in a pillar strategy that is designed to better withstand further seismic events and reduce their impact so that, should such an event occur, the safety of mine personnel can be maintained and re-entry time following any possible future seismic events will be reduced. Underground mined grade showed a 4% improvement at 6.25g/t compared to the previous year. Operating results were, however, negatively affected by mining costs which increased by 28% per tonne, to A\$91/t. This increase was largely as a result of increased underground contractor mining costs.

The potential for accessing the Water Tank Hill underground lodes from the St George decline is currently the subject of a scoping study, which may prove them to be economical in the current gold price environment. A drill programme of these lodes, which are accessible from the St George underground, is continuing.

During the year mining of open pits took place near the town of Cue, with ore being trucked to the mill at Mt Magnet. Ore production from open pits declined significantly compared with the previous year, with only 57 965oz being produced in the current year from open-pit and low-grade sources. Open pit and low grade tonnes treated declined from 1 987 841 tonnes in the previous year to 1 288 817t in the current year. The low volumes of open-pit dirt mined during the year, as well as increased contractor rate resulted in mining costs increasing to A\$62/t.

Open-pit mining in this region will be completed early in FY07, with open-pit operations relocating to Mt Magnet. The company will be entering into a maintained dry hire agreement for open-pit mining equipment during FY07, with Harmony acting as operators, which will mitigate some of the cost pressures and flexibility issues experienced with open-pit mining contractors during FY06. The conversion of the power station at the plant from diesel to gas was completed in February 2006, resulting in a saving of R25.9 million (A\$5.4 million) annually on power generation costs at current

diesel prices. This amounts to an effective reduction of 13% in milling unit costs. Cash operating cost per ounce for the site during the year was A\$530/oz.

### South Kal Mines

South Kal mines produced 2 570kg (82 639oz) of gold during the year, compared with 3 596kg (115 614oz) in the previous year from the milling of 1 342 848t of ore.

During the year mill feed stock at the site consisted of Mt Marion underground ore blended with low-grade stockpiles, which resulted in lower production compared to previous years, when open-pit ore was also treated.

Underground production from Mt Marion decreased from 469 799t at 4.14g/t in the previous year to 403 587t at 4.04 g/t in the current year, for 52 424 underground ounces mined. This decrease was as a result of increased stress levels within the lower stope access drives at Mt Marion which resulted in ground stability problems which severely affected underground ore production. These underground conditions will require increased ground support and drive rehabilitation activities going forward, which will continue to have an impact on production. As planned, decline development was stopped during the third quarter of FY06 as the mine's economic depth limit had been reached. This effectively put the mine in 'harvest mode' with mine closure anticipated early in FY08. The conditions described above, as well as a revised underground mining contract has led to underground mining costs increasing to A\$79/t.

During the year, 939 261t of low-grade material was treated at the Jubilee plant for 30 215oz of gold, with no open-pit mining taking place. Exploration work carried out during the year to identify new open-pit sources discovered the Shirl prospect, which was converted into a reserve of 510 000t at 3g/t for 49 598 mined ounces over a 15-month mine life. Work has started on bringing this pit into production, with first ore expected in September 2006. Drilling is continuing around this prospect as mineralisation is open at depth. As part of the recommencement of open-pit operations as South Kal Mines Harmony has entered into a dry hire arrangement on open-pit mining equipment, which will allow it more operational flexibility and reduce mining costs.

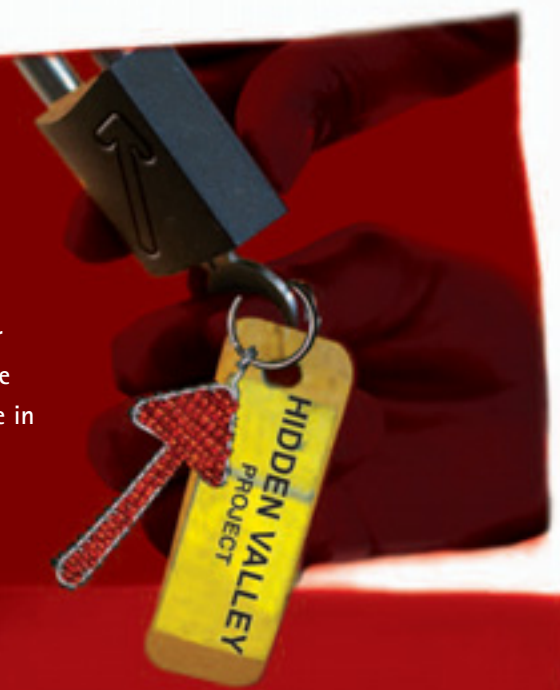
During the year work continued on the evaluation of a cut-back on the HamptonBoulderJubilee (HBJ) pit. The current gold price environment makes the mining of 2.9Mt at 1.66g/t for 154 000oz over a three year life feasible, with the final mining decision expected early in FY07.

Cash operating cost per ounce for the year for the site was A\$601/oz.

## MOROBE PROVINCE, PAPUA NEW GUINEA

## Hidden Valley Project

The Hidden Valley project entails the construction of a significant gold and silver mine. This mine will process 4.2Mt of ore per annum from the two open pits. The Hamata orebody is one small pit and the Hidden Valley and Kaveroi orebodies are in a much larger open pit. The mine is located in a highly prospective exploration lease area and it is envisaged that as active exploration continues the life of the process facility may be extended as it is fed from a number of sources.



### KEY DATES:

Project start	October 2005 (access road construction started) September 2006 (mine and infrastructure construction)
Expected completion	November 2008
<b>EXPECTED ANNUAL PRODUCTION</b>	285 000oz of gold 3.9Moz of silver (67 000oz of gold equivalent)
<b>CAPITAL EXPENDITURE</b>	<b>R1 817 million</b> <b>US\$278.3 million</b>
<b>LIFE OF MINE</b>	
Years	10
Tonnes milled	43 million
Grade (average reserve)	2g/t
Life-of-mine ounces	2.6 million (gold)
<b>Financial evaluation at a gold price of A\$666 /oz</b>	
NPV at 7.5%	A\$108 million R540 million
IRR	14%
<b>Financial evaluation at a gold price of A\$800/oz</b>	
NPV at 7.5%	A\$239 million R1 195 million
IRR	21%

### Project status

All the required statutory approvals for the start of the Hidden Valley project construction were obtained in the third quarter of 2005 from the PNG government. At an official signing ceremony in Wau on 5 August 2005 the Mining Lease, Memorandum of Agreement and various compensation agreements for the project and access road were signed with representatives from various levels of government as well as land owners.

A feasibility study update for the project was completed in April 2006 based on the latest reserves with new cut-off grade and pit optimisations. This study identified several significant project improvements compared to previous studies including:

- a 36% increase in recoverable ounces and a 50% increase in life-of-mine,
- a 37% reduction in the average annual bulk cubic metres (bcm) mined, and
- throughput rising by 20% to 4.2 Mtpa as a result of the new plant design.

The project will provide 2.6Moz of gold over the 10 year mine life at an average cash cost of approximately US\$225/oz, net of silver credits. Average annual gold production will be approximately 285 000oz, with a peak annual production of 317 000oz. On the basis of this Feasibility Study Update, Harmony board approval for the project construction was granted in June 2006.



R million



## Hidden Valley Project cont.

### Site access

The Hidden Valley site is located approximately 90km south-southwest of Lae, which is the nearest deep-water port for the project, and the Capital of Morobe Province. Access to the site from Lae uses an existing 110km sealed two-lane main road to the town of Bulolo, continuing to Hidden Valley via a new access road. Work commenced on the construction of the Hidden Valley access road to the site from the Bulolo in October 2005. Road building consists of four phases, namely pioneering operations, bulk-out, finishing and crushing. The pioneering crew located suitable routes through heavily forested areas and steep areas, making use of old logging roads for a large portion of the way. Pioneering crews reached the proposed mine site in May 2006, making the site accessible to other construction equipment which will enable the commencement of major construction earthworks. The bulk-out crew, responsible for earth moving, progressed to the 29km mark by year-end. Drainage has been increased in areas identified as having drainage problems during heavy rainfall. The finishing crew will construct the required culverts and drainage, before the crushing crew completes road construction. Current estimates indicate that the road construction will take 11 months to complete with targeted completion to final design specifications in September 2006, and require the movement of 1.7Mm<sup>3</sup> of earth.

Harmony contracted a road construction manager and a core of operators with extensive PNG road-building experience to undertake this project. The total construction cost of building the road is estimated to be A\$6.6 million. Costs remain under budget to date.

### Engineering procurement and construction management (EPCM) contract

Following board approval of project construction a small owners' team of experienced construction professionals

was recruited, including several key individuals with extensive PNG experience. In July 2006 an agreement was reached with the engineering group Ausenco Limited to provide EPCM services for the project. Ausenco started immediately with the preparation of a project execution plan as well as the detailed design stage of the project which is ongoing.

### Power supply

While sufficient diesel powered generator capacity will be installed to cover the full site electrical load, the ability to obtain an alternate (cheaper) power supply from, PNG Power Limited (PNG's national power supplier), is of critical importance to the project. A Heads of Agreement setting out the key commercial terms of the proposed contract is in the process of being negotiated.

### Mining fleet

The mining equipment required for the project consists of three 180 tonne excavators; a fleet of 95 tonne haul trucks and a range of ancillary equipment. Supply and maintenance agreements for this fleet are due to be signed in September 2006. The delivery of the first batch of mining equipment for pre-stripping is currently scheduled for the second quarter of FY07.

### Geological update

Resource models prepared as part of the Feasibility Study Update identified a total project resource for Hidden Valley, Kaveroi and Hamata of 4.5Moz of gold (62.9Mt at 2.2g/t) and 71Moz of silver. A detailed review of these resources identified the need for additional infill drilling programmes which have been planned for the Hamata and Kaveroi deposits and will be completed in late 2006 and early 2007.

### Environment

The Environmental Management Plan (EMP) has been approved. The key

environmental issue for the project is the effective management of water quality in the Bulolo and Watut rivers. A range of control measures will be implemented for acid rock drainage, sediment run-off and tailings facility discharge water quality. Work continues on baseline studies and monitoring programmes required for both the construction and operational phases of the project.

Re-engineered surface designs have led to the tailings storage facility capacity being increased from 32Mt to 43Mt and the waste dump's design now complying with acid rock drainage and other environmental commitments.

### Community affairs/landowner discussions

Community support and development of the mine in compliance with the Memorandum of Agreement with landowner groups is critical to the success of the project. Meetings are held regularly with these groups as well as with officials from the provincial and national government to monitor progress and ensure these objectives are met. A range of opportunities for the commercial participation of landowner groups in the development of the project are being considered as a priority. Community relations initiatives, focused on positive outcomes for health education and infrastructure, are ongoing.

### Outlook

Various options and initiatives are currently being considered to further optimise the economics of the project and to reduce the construction time line. The establishment of a low-grade stockpile with a capacity of 7Mt (0.8g/t – 1.3g/t); cost and schedule improvements as well as various Value Improvement Processes (VIPs) are being considered. Plant commissioning is currently scheduled for the end of 2008.