

Surface infrastructure at Two Rivers Platinum Mine

# Platinum Division

## ABOUT ARM PLATINUM

ARM Platinum's interests comprise:

- a 50 percent joint venture (held through the 83 percent stake in ARM Mining Consortium) with Anglo Platinum in the Modikwa Platinum Mine;
- a 55 percent interest in the Two Rivers Platinum Mine, in a joint venture with Impala Platinum Holdings Limited (Implats); and
- the Nkomati Nickel Mine, a 50 percent joint venture with LionOre.

ARM Platinum manages Two Rivers and participates in the management of Modikwa and Nkomati through their joint managing committees.

The division has a 90 percent interest in the Kalplats PGM Project, where exploration is undertaken in conjunction with Platinum Australia.

### ARM PLATINUM location of operations

- 1 Modikwa Platinum Mine
- 2 Two Rivers Platinum Mine
- 3 Nkomati Nickel Mine
- 4 Kalplats PGM Project



# Platinum Division continued

## ARM PLATINUM AT A GLANCE

Operation	ARM interest and JV partner	Steady-state, ramp-up or exploration/project	Production in FY2006	At steady-state		Life of mine (years)
				Production	Financial year	
Modikwa	50% ARM 50% Anglo Platinum	Ramp-up	293 313 oz PGMs	350 000 oz PGMs	2007	30 years on the UG2 orebody
Two Rivers	55% ARM 45% Implats	Ramp-up	n/a	220 000 oz PGMs	2008	20 years on the UG2 orebody
Nkomati Extension	50% ARM 50% LionOre	Steady-state	5 616 t Ni 3 398 t Cu 49 437 oz PGMs	5 000 t Ni n/a	n/a	10 years without large scale expansion released
Nkomati Large Scale Expansion	50% ARM 50% LionOre	Project	n/a	21 500 t Ni 12 000 t Cu 130 000 PGMs	2010	20
Nkomati Chrome	50% ARM 50% LionOre	Ramp-up	n/a	720 000 tpa	2007	5
Kalplats PGM Project	90% ARM (earn in to 49% by Platinum Australia)	Exploration	n/a	n/a	n/a	n/a

## PGMs AND NICKEL MARKET

The overriding feature of the PGMs market in the past year has been the surge in the prices of the metals. The platinum price touched an all-time high in May of \$1 335 per ounce and was, at year-end, still trading at levels well in excess of \$1 200 an ounce compared with around \$870 an ounce a year ago. The prices of palladium, and especially rhodium, reached levels not seen in many years. Platinum demand for jewellery has declined in reaction to the high prices, but was more than countered by continued increases in demand from the automotive sector. In Europe, emission regulations are becoming ever more stringent resulting in strong demand from the autocatalyst sector, and the sustained growth in sales of light diesel vehicles. Demand for palladium is being boosted by increased demand from jewellery manufacturers, especially in China, although above-ground supplies of the metal, particularly in China, could limit the upside potential for palladium. During the year rhodium prices surged dramatically reaching levels of over \$6 200 per ounce. The rhodium market has been driven largely by demand from the autocatalyst sector, supported also by growth in the glass manufacturing industry as demand for liquid crystal display (LCD) and flat-screen glass increases. This demand is likely to persist into the 2007 financial year, with a positive impact on revenues, as rhodium makes up some 10 percent of ARM Platinum's basket of PGMs.

Nickel prices peaked on 31 May at approximately \$32 000 per tonne and have risen by 121 percent from January to July 2006. The increase in the price has resulted in nickel becoming an increasingly important by-product of PGM producers. The strong price is being supported by supply constraints, with ongoing supply difficulties in Australia and Indonesia and an accelerating drawdown on London Metal Exchange stocks. There has been continued strength in demand from the stainless steel industry, from European stainless steel mills which are struggling to meet orders, and renewed purchasing in China. The strong demand for nickel, in both stainless and non-stainless steel applications, continues to support prices.

**REVIEW OF THE YEAR**

ARM Platinum continued its aggressive growth programme during the year. In total the division reported 171 374 ounces of PGMs and 2 808 tonnes of nickel attributable to ARM. Following the disposal of the 50 percent stake in Nkomati to LionOre in May 2005, nickel tonnes attributable to ARM have declined, although this is expected to increase once the Nkomati expansion project comes on stream.

Both Modikwa and Nkomati improved their contribution to the group as a result of increased production. Significantly, these production increases coincided with the uptrend in PGM and base metal prices, particularly in the second half of the financial year, adding to the improvement in profitability.

The division's attributable earnings rose from R120 million (\$17 million) in FY2005 to R227 million (\$32 million) in FY2006, despite the reduction in the shareholding in Nkomati.

The Platinum Division is a key component of ARM's growth programme, and good progress was made on objectives during the year.

- Modikwa has substantially completed its ramp-up to achieve full mill throughput of 240 000 tonnes per month by year-end, and reported maiden earnings during the year.
- The Two Rivers concentrator plant was started, ahead of schedule and below budget, and is likely to produce at design capacity of 225 000 tonnes per month from October 2006 because of the significant 1.1 million tonne ore stockpile accumulated during the trial mining and construction process.
- During the year a new concentrator plant was approved for Nkomati to extend the mine's life while the feasibility work on various expansion options is in progress.

**OUTLOOK AND GROWTH**

Production from Nkomati is expected to be maintained at current levels, while Modikwa is expected to reach steady-state production of some 350 000 ounces of PGMs (160 000 ounces of platinum) during FY2007, with the first production from Two Rivers – at about 120 000 ounces of PGMs (61 000 ounces of platinum) – planned for FY2007.

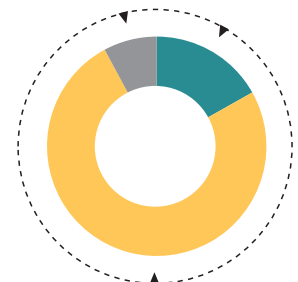
Nkomati will continue in 2007 to operate as one of the lowest cost nickel producers in the world. Costs at Modikwa should stabilise as productivity improves and the rate of development decreases. Two Rivers, planned as a low cost producer, will reduce the average cost of production per platinum ounce as it rapidly builds up to full production, and is expected to make a strong contribution in the 2007 financial year.

The next year will see the final capital expenditure in building Two Rivers as well as costs associated with feasibility work, the 100 000 tonnes per month plant at Nkomati, and the Modikwa extension.

The project pipeline in the Platinum Division is focused on expanding Nkomati during the next five years, sustaining production at Modikwa, with the possibility of expanding the operation, and evaluating the feasibility of Kalplats.



**ARM PLATINUM  
CAPITAL EXPENDITURE (FY2006)  
(100 PERCENT BASIS)**

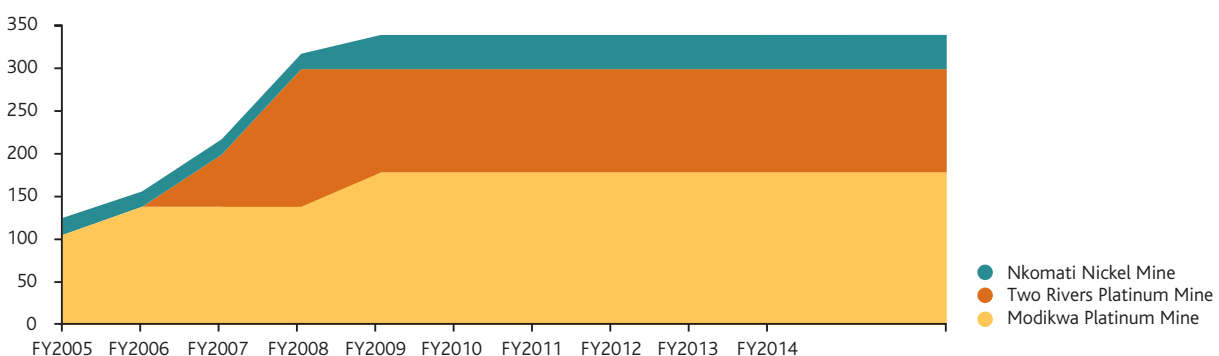


Modikwa R214 million  
Two Rivers R957 million  
Nkomati R100 million

# Platinum Division continued

With Modikwa reaching full production and Two Rivers coming into production, together with the contribution from Nkomati, the division is now able to exploit the positive resource price environment. In addition, these operations also have quality, long-life orebodies with the potential to increase production into the future. Refer to the section on Reserves and Resources on page 55 for further information.

GROWTH IN ATTRIBUTABLE PGM OUNCES (000 oz)



## MODIKWA PLATINUM MINE

### ARM'S ECONOMIC INTEREST:

ARM Mining Consortium holds 50 percent, with a 17 percent stake in ARM Mining Consortium being held by two section 21 companies representing mining communities around Modikwa. Thus, ARM has an effective 41.5 percent economic stake.

### MANAGEMENT:

Joint management, via a joint management committee, between Anglo Platinum and ARM Platinum.

### LOCATION:

The mine is located 15 kilometres north of Burgersfort and 15 kilometres east of Steelpoort, along the border between the Mpumalanga and Limpopo provinces.

### GEOLOGY:

Modikwa is located on the eastern limb of the Bushveld Complex. The mine currently exploits the UG2 reef, which has an average width of 60 centimetres and occurs as a chromitite layer. The shallower, but lower grade, Merensky reef also outcrops on the mine property.

### DESCRIPTION OF ASSETS:

The operation comprises an underground mine, some 450 metres deep, three decline shafts and a concentrator.

### REFINING:

All metal produced is smelted and refined by Anglo Platinum in terms of the joint venture agreement: 50 percent is attributable to Anglo Platinum and 50 percent is purchased by Anglo Platinum in terms of an agreement.

### NUMBER OF EMPLOYEES, INCLUDING CONTRACTORS:

5 505

KEY STATISTICS – MODIKWA PLATINUM (100 PERCENT BASIS)				
Operational statistics		Year ended 30 June 06	Year ended 30 June 05	% Increase/ (decrease)
Cash operating profit	R million	360	(173)	308
Tonnes milled	Million tonnes	2.51	2.46	2
Head grade (4E)	g/t	4.28	4.23	2
Platinum-in-concentrate	ounces	131 845	126 122	5
PGMs in concentrate	ounces	293 313	281 177	4
Cash cost	R/Pt oz	7 451	6 984	(7)
	R/PGM oz	3 394	3 136	(8)
Capex	R million	128	104	23

## REVIEW OF THE YEAR

As with a number of other eastern limb start-up operations, Modikwa has had to deal with geological disturbances, building up constructive relations with labour and less-than-anticipated efficiencies, exacerbated by a relatively inexperienced workforce. The mining method was changed during the year to breast mining, resulting in a reduction in the amount of reef development required, and this, together with changes in mine management and the organisational structure, gave rise to increased production. As more stoping tonnes were produced, the treatment of material from other sources (PPL calcine and medium grade development tonnes used to fill the mill) ceased. The net effect was that the PGM ounces in concentrate produced rose to 293 313 ounces of PGMs, including 131 845 ounces of platinum, an increase of 5 percent on the prior year. In line with its design capacity, the mine can now produce at 240 000 tonnes per month.

Cash costs rose by 8 percent to R3 394 per PGM ounce, mainly owing to the development associated with increasing the mineable ore reserves from eight to 13 months.

The vast improvement in product prices was largely responsible for Modikwa posting significantly increased profits.

Capital expenditure during the year amounted to some R128 million (\$18 million). Major capital expenditure items were the completion of mine construction and the allocation of funds for the North shaft deepening from 4 to 5 level, and further work carried out to evaluate options to extend the mine's life.

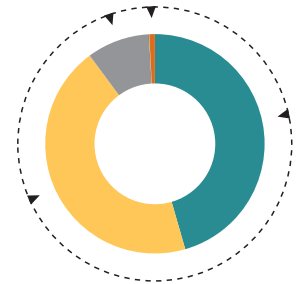
## OUTLOOK AND GROWTH

The mine is undertaking increased development to reach a sustainable, immediately-available ore reserve position. The relatively new mining crews are improving their performance every month and Modikwa is confident that the mine will reach its steady-state production target of 350 000 ounces of PGMs (160 000 ounces of platinum) during the 2007 financial year.

Increased production and improved efficiencies anticipated during FY2007 are likely to increase operating profit still further in the year ahead, thereby reducing ARM Mining Consortium's dependence on ARM to service loan repayments and capital costs.

The Modikwa mining licence covers a UG2 strike length of 22 kilometres of which only approximately 8 kilometres is mined at present. It is therefore clear that this orebody could support a more extensive operation. Current feasibility work is focused on the replacement of the existing infrastructure as well as the possibility of increasing volumes from the mine. The Merensky reef occurs over the same strike length as the UG2 reef and is currently being evaluated through a trial mining project. There is, therefore, a real possibility that Modikwa could be expanded in future.

PRILL SPLITS: MODIKWA (%)



45.4% Pt 0.04% Au  
44.3% Pd 0.06% Ru  
9.2% Rh 0.82% Ir



# Platinum Division continued

## TWO RIVERS PLATINUM MINE

ARM'S ECONOMIC INTEREST:	55 percent
MANAGEMENT:	Managed by ARM Platinum.
LOCATION:	Two Rivers is located near the town of Steelpoort, in Mpumalanga on the eastern limb of the Bushveld Complex.
GEOLOGY:	The mine property contains both Merenkensy and UG2 reefs. Initially the mine will exploit the more profitable UG2 reef only.
DESCRIPTION OF ASSETS:	The mine comprises an underground operation and a concentrator plant.
REFINING:	Refining will be undertaken by Implats subsidiary Impala Refining Services in terms of a contractual arrangement.
NUMBER OF EMPLOYEES, INCLUDING CONTRACTORS:	1 000

### KEY STATISTICS – TWO RIVERS PLATINUM (100 PERCENT BASIS)

*As Two Rivers is currently commissioning, no operational statistics other than capex are reported.*

Operational statistics		Year ended 30 June 06	Year ended 30 June 05	% Increase/ (decrease)
Capex	R million	946	170	456

**REVIEW OF THE YEAR**

Two Rivers has a design capacity to mine and process 225 000 tonnes per month, producing an estimated 120 000 ounces of platinum, 68 000 ounces of palladium and 20 000 ounces of rhodium in concentrate a year.

The total capital expenditure is currently estimated at some R1.3 billion (\$181 million) through to conclusion of the commissioning of the mine. Some R700 million (\$98 million) of project finance was secured through commercial banks, while the balance was contributed by the partners in proportion to their holding. In addition to the R1.3 billion referred to above, an amount of R300 million (\$42 million) for the purchase of the mining fleet and for building houses in Lydenburg is fully covered by bank loans. Some R946 million (\$132 million) of capital was spent during the 2006 financial year.

Excellent progress has been achieved with the 220 000 ounces of PGMs per year Two Rivers project. The project was officially released for construction in June 2005. Two Rivers has built up a 1.1 million tonne stockpile for the concentrator plant which was wet commissioned in July. This was followed by ore processing in August, ahead of the September target date.

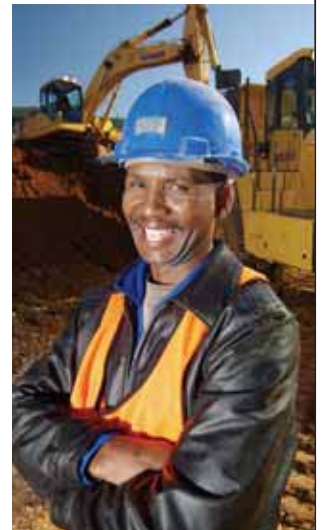
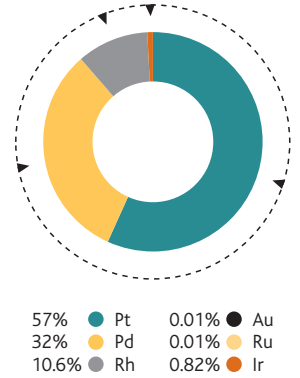
The UG2 at Two Rivers dips at an average eight degrees with a reef width of approximately 1.8 metres. This lends itself to the bord and pillar trackless mining methods, which have been successfully introduced at the mine. In addition, a feasibility study is being undertaken to test the viability of installing an additional decline to supplement production.

**OUTLOOK AND GROWTH**

The Two Rivers concentrator should reach full capacity after the first quarter of the 2007 calendar year. Underground operations are expected to reach full production levels by the end of the 2007 calendar year.

In the medium term, Two Rivers is expected to be in the lower cost quartile among producers and a long-life operation for ARM – the UG2 orebody has a mining life of 20 years. Mining of the Merensky reef could add to the mine’s life.

**PRILL SPLITS: TWO RIVERS (%)**



# Platinum Division continued

## NKOMATI NICKEL MINE

ARM'S ECONOMIC INTEREST:	50 percent
MANAGEMENT:	The mine is managed as a 50:50 unincorporated joint venture with LionOre.
LOCATION:	Located in the Machadodorp area of the Mpumalanga province, 300 kilometres east of Johannesburg.
GEOLOGY:	Nickel, copper, cobalt, chrome and PGM mineralisation at Nkomati occurs in a number of distinct zones within the Uitkomst Complex, a layered mafic-ultramafic intrusion, which is exposed in a broad valley dissecting the Transvaal Sequence in the Mpumalanga escarpment region. Defined zones of the Chromititic Peridotite Mineralised Zone (PCMZ) in the Chromititic Peridotite (PCR) unit, the Main Mineralised Zone (MMZ) in the Lower Pyroxenite (LrPXT) and the Massive Sulphide Body (MSB) were identified as economic.
DESCRIPTION OF ASSETS:	Nickel mining takes place through an underground shaft as well as through open-pit mining. Oxidised chromitite is also mined as part of the pre-strip of a future open pit.
REFINING:	Refining takes place through various tolling contracts.
NUMBER OF EMPLOYEES, INCLUDING CONTRACTORS:	280

### KEY STATISTICS – NKOMATI NICKEL MINE (100 PERCENT BASIS)

Operational statistics		Year ended 30 June 06	Year ended 30 June 05	% Increase/ (decrease)
Cash operating profit	R million	547	349	57
Tonnes milled	tonnes	373	346	8
Head grade	% nickel	1.89	2.01	(6)
C1 cost net of by-products	\$/lb	(0.36)	1.49	125
<b>Sales</b>				
Nickel	tonnes	5 616	5 291	6
Copper	tonnes	3 398	3 260	4
Cobalt	tonnes	257	97	165
PGMs	ounces	49 437	39 370	26

## REVIEW OF THE YEAR

The Nkomati Mine is one of the lowest-cost nickel producing mines in the world. ARM has been mining the massive sulphide underground body (MSB) since 1997 and has carried out a number of feasibility studies on a combined underground/open-pit operation exploiting the MMZ and PCMZ. Following the acquisition by LionOre of a 50 percent interest in Nkomati in May 2005, the partners have been involved in ongoing evaluation and optimisation of the disseminated orebodies. LionOre, one of the world's 10 largest nickel producers, is the owner of the Activox® hydrometallurgical refining technology being considered for the Nkomati Expansion Project.

This has been a phenomenal year for the operation. Despite the current MSB orebody rapidly being depleted, and limited flexibility in the mining sequence adversely affecting the grades, record volumes are being put through the plant for treatment, with recoveries being maintained. With an improvement in productivity, unit costs and the boom in commodity prices, profits increased substantially. Because of the significant by-product credits, the mine has actually produced nickel at a negative cost.

## OUTLOOK AND GROWTH

The high-grade MSB orebody is expected to be depleted by February 2008. The life of the mine will, however, be extended by a new 100 000-tonnes-per-month concentrator plant, which is currently being constructed at a capital cost of R384 million (\$54 million), funded out of operational cash flows. This plant will treat 47 000 tonnes per month from underground MMZ and 53 000 tonnes per month from open-pit MMZ mining. Although mining from MMZ will be at a lower grade, the higher tonnage will maintain the same product sale volumes into the future. Nkomati is expected to remain a very competitive nickel producer.

During the past year Nkomati has, for the first time, mined and produced approximately 300 000 tonnes of lumpy and chip chrome ore from the exposed resource in Pit 3. The product has been successfully tested at the nearby Assmang Machadodorp smelter (part of the ARM Ferrous division) in the production of charge chrome. This resource overlies the nickel mineralisation and forms part of the planned Pit 3 pre-strip requirements for the future nickel exploitation of the large disseminated nickel sulphide orebodies. The joint venture has therefore announced that the chrome mining operation will continue and build up to produce 60 000 tonnes per month of product by the second half of the 2007 financial year.





Load Haul Dump (LHD) operator training

## Platinum Division continued

### NKOMATI NICKEL EXPANSION PROJECT

ARM and LionOre have continued to evaluate the viability of the large disseminated lower grade resources that can be mined from open pits as well as from the current underground infrastructure. Recent test work, as well as improved metal price forecasts, render the potential expansion at Nkomati very attractive.

The 100 000 tonne-per-month concentrator plant currently being constructed is seen as the first phase of such an expansion. The next phase for consideration, being the Nkomati Nickel large scale expansion, is a larger (375 000 tonnes per month) concentrator plant and infrastructure. This will increase nickel production to 21 500 tonnes a year and PGM production to approximately 130 000 ounces. A bankable feasibility study will be completed during FY2007.

During the past year, concentrates from Nkomati have been successfully refined through the Activox® demonstration plant at Tati Nickel (another LionOre operation) in Botswana. Feasibility work on such a refinery to treat the concentrates from the expansion will also be continued during the next year.

### KALPLATS PGM EXPLORATION PROJECT

ARM'S ECONOMIC INTEREST:	90 percent. A dilutionary clause in the joint venture agreement between the partners provides for Platinum Australia (PLA) to earn up to 49 percent of the project by completing a bankable feasibility study and making its proprietary Panton Metallurgical Process available for the project at no cost.
MANAGEMENT:	Project managed by PLA during feasibility phase.
LOCATION:	Located in the North West Province, 330 kilometres west of Johannesburg.
GEOLOGY:	The project lies within the western limb of the Kraaipan Greenstone Belt, some 45 kilometres to the west of the existing Kalahari Goldridge mining project. PGM mineralisation is developed within the Stella Layered Intrusion hosted within the Kraaipan greenstones and occurs as magmatic segregation reef deposits that are hosted in a magnetite gabbro within the steeply dipping Stella Layered Intrusion (SLI). A total of seven separate PGM deposits and three prospects have been identified over the 12 kilometre strike length of intrusion, and potential exists for further discoveries in the project area.
REVIEW OF THE YEAR:	Feasibility work on the metallurgical behaviour of the ore has progressed satisfactorily.

**Mangisi Gule**  
Chief Executive: ARM Platinum  
9 October 2006