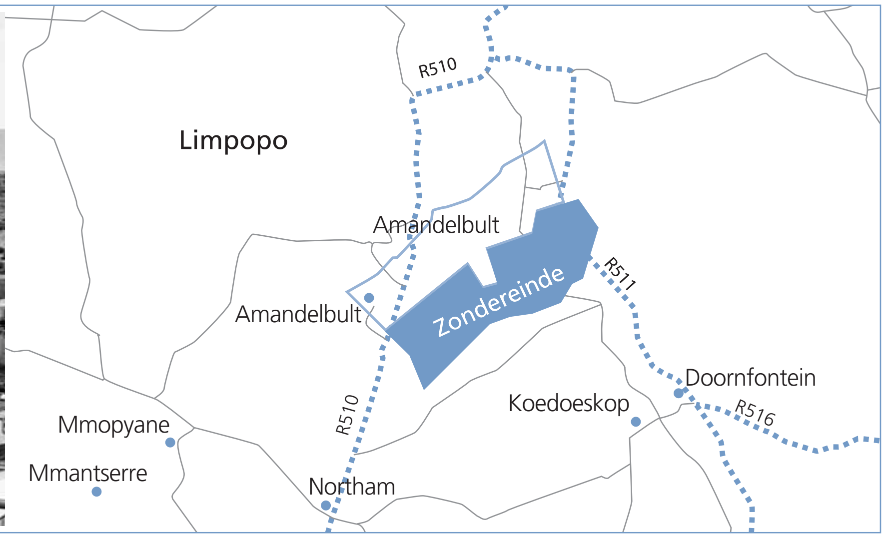
# OPERATIONAL REVIEW




## Zondereinde

### Zondereinde mine – key facts and statistics

| | |
|---|---|
| Ownership | Wholly-owned by Northam Platinum Limited |
| Location | Northern part of the western limb of the Bushveld Complex in Limpopo Province; adjacent to the Amplats' Amandelbult operation |
| Access and infrastructure | Well-established infrastructure: tarred roads, railway, water and power |
| Project extent | 7 625 hectares; strike length of 8km |
| Reserves | 8.15Moz (3PGE+Au) |
| Resources | 82.92Moz (3PGE+Au) |
| Life of mine | 18 years |
| Operations | Underground mining operations on the Merensky and UG2 reefs between 1 200 and 2 200 metres in depth |
| | Underground equipment driven by hydropower |
| | Surface operations include a Merensky and UG2 concentrator plant, a smelter and base metals removal plant (BMR) |
| Production profile | Steady state output of approx 300 000oz (3PGE+Au) annually |
| Precious metals refining agreement | Performed by WC Heraeus GmbH (Heraeus) in terms of a toll-refining agreement |
| Marketing | In-house, independent marketing to established global customer base |
| F2011 capex | R287 million |
| F2012 capex (estimate) | R384 million |
| F2011 cash costs | R279 118/kg (3PGE+Au) |

## People, health and safety

At the end of June F2011, a total of 9 042 people were employed at the Zondereinde mine (6 851 permanent employees, 1 504 long-term contractors and 687 short-term contractors). In spite of the pressure on production, and the disappointing operational performance, no employees lost their jobs owing to any organisational restructuring or retrenchments during the year.

Maintaining the company's BEE credentials in the year was marked by progress in employing and developing historically disadvantaged South Africans (HDSAs). At the end of F2011, 45% of management positions were filled by HDSAs (F2010: 32%) with women making up 7% of the workforce compared with 6% during F2010.

Ensuring the safety of employees and contractors is a primary area of focus for the company and takes precedence over any production objectives. A critical objective has been to develop and instill a shared duty of care between employees at all levels in the company. The safety performance over the year was disappointing.

## Key indicators

### Safety

- Five fatalities (F2010: one)
- LTIIR[1] – 1.34 per 200 000 hours (F2010: 0.83)
- RIIR[2] – 0.74 per 200 000 hours (F2010: 0.52)
- FIIR[3] – 0.06 per 200 000 hours (F2010: 0.01)
- 4 234 shifts lost owing to occupational injury (F2010: 1 881)

### Community and environment

- Water used – 4 832 000m$^3$
- Water recycled – 91%
- Energy usage – 601 890MWh
- $SO_2$ emissions – 6 374 tonnes
- $CO_2e$ emission – 635 468 tonnes
- Environmental liability of R107.3 million
- Corporate social investment of R4.1 million

*1 LTIIR – lost time injury incidence rate – resulting in one to 13 days' absence from work*
*2 RIIR – reportable injury incidence rate – resulting in 14 or more days' absence from work*
*3 FIIR – fatal injury incidence rate*

*Metallurgical processing plant at Zondereinde*

## Zondereinde operating statistics

| | F2011 | F2010 |
|---|---|---|
| **Merensky reef** | | |
| Development metres | 5 899 | 8 864 |
| Square metres mined | 140 501 | 201 569 |
| Tonnes milled | 793 490 | 1 002 208 |
| Head grade (g/t 3PGE+Au) | 5.6 | 5.9 |
| PGMs in concentrate produced (kg) | 3 792 | 5 094 |
| Ore reserve availability (months) | 18 | 20 |
| **UG2 reef** | | |
| Development metres | 1 720 | 2 694 |
| Square metres mined | 125 726 | 166 129 |
| Tonnes milled | 797 355 | 1 036 017 |
| Head grade (g/t 3PGE+Au) | 4.3 | 4.6 |
| PGMs in concentrate produced (kg) | 2 882 | 3 917 |
| Ore reserve availability (months) | 24 | 24 |
| **Combined reefs** | | |
| Development metres | 7 619 | 11 558 |
| Square metres mined | 266 227 | 367 698 |
| Tonnes milled | 1 590 845 | 2 038 225 |
| Head grade (g/t 3PGE+Au) | 4.9 | 5.2 |
| PGMs in concentrate produced from u/g mining (kg) | 6 674 | 9.011 |
| PGMs in concentrate from other sources (kg) | 1 105 | 988 |
| Total (kg) | 7 779 | 9 999 |
| PGMs in concentrate purchased | 2 240 | 2 106 |

*Aerial view of the Zondereinde concentrator plants*

## The year in review – mining and production

The six-week strike in September/October 2010 had a predictably adverse effect on production results.

In total 65 out of 301 working days available for mining were lost due to strike action and safety-related incidents. A total of 1 590 845 tonnes were milled (F2010: 2 038 225), illustrating the effects of stoppages, but also of the anticipated constraints on the Merensky horizon and ore reserve position. The combined grade at 4.9/t (MR: 5.6g/t; UG2: 4.3g/t) was 5.8% lower year-on-year owing to some unavoidable waste mining, mining the normal reef at a higher average stoping width in order to maximise metal extraction, the incidence of transition zone intersections and poor control of the UG2 reef.

On the Merensky reef the grade reflected the incidence of a higher average stoping width on the normal reef in order to maximise metal extraction; the incidence of transition zone intersections; and ground conditions.

Going forward this will be addressed through a tighter focus on mining width and grade control.

Metals in concentrate produced declined by 22.2% to 7 779kg (250 110oz), due largely to the loss of operating shifts. Purchased concentrate amounted to 2 244kg (72 146oz).

The key to recovery at Zondereinde lies in the availability of the Merensky reef. Some progress has been made in this area, but some challenges remain:

- on 14 level development has intersected the Little John Dyke on the eastern side of the mine, and sealing is in progress. With high ground water yields delays are anticipated until at least the end of Q1 of F2012.
- on the western side of the mine, at year-end, the 3, 4 and 12 levels were on short rounds owing to adverse ground conditions. In traversing the 14 line fault, delays on both 3 and 4 levels have affected the establishment of footwall drives and crosscuts. On 3 level significant ground consolidation has been required ahead of development.
- operations on the 1, 5, 6, 13 and 14 levels were temporarily halted to enable ring covering and sealing.
- the lag on 6 and 7 levels has precluded connectivity between the upper and lower levels. This will remain so until raise connections hole between 8 and 5 levels. On 1 and 13 levels sealing work has advanced well, and the fissure appears to be less problematic on these two levels than on others.
- The deepening project has progressed, despite the slow introduction in the first half of the year of the new mechanised equipment. These problems have been largely overcome and the benefits of the larger equipment on the development cycle were evident in the second half of the year. In addition, increased volumes of normal reef are being mined from this area. Mining options remained limited, particularly in the second half of the year. These conditions are likely to persist for the next 18 months until the additional stoping areas in the upper and central western portions of the mine, together with the decline section, come on stream.

## Metallurgical operations

Since the repairs to the electrostatic precipitator, completed in October last year, the metallurgical operations continued to operate satisfactorily during the year. Work continues on assessing future smelting options.

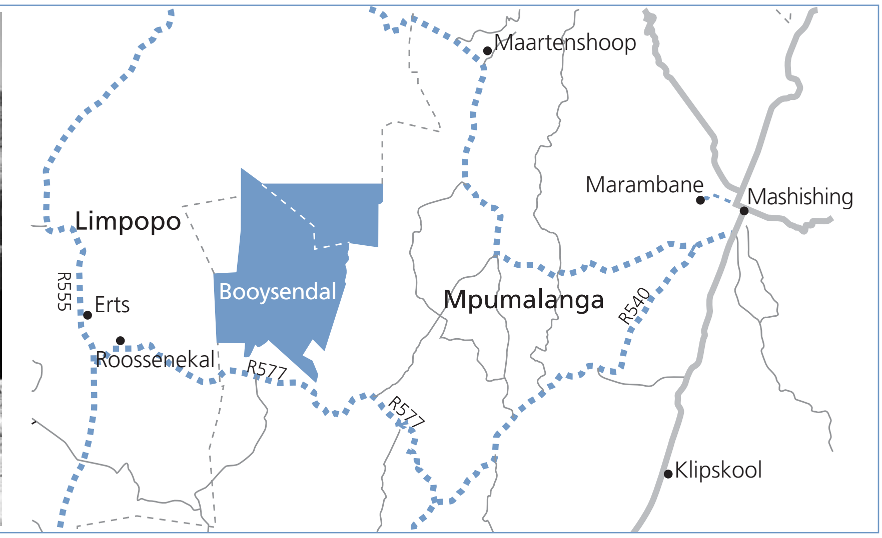
## Costs and capital expenditure

The combination of lower production volumes and higher mining costs resulted in unit cash cost increases of 29.3% to R279 118/kg compared to R215 900/kg in the previous comparable reporting period. Capital expenditure at Zondereinde absorbed R268.9 million (F2010: R231.5 million), with the major capital expenditure item being the deepening project, within budget at R92.7 million. Capital expenditure for F2012 is likely to be approximately R384.3 million with the deepening project and the accelerated development accounting for about R179.7 million.

## Township land and development

In terms of the group's strategy of assisting employees to acquire affordable housing, management is pleased to advise that 100 houses were sold in the Mojuteng Township of Northam town during the reporting period.

# OPERATIONS REVIEW cont.




## Booysendal

### Booysendal platinum project – key facts and statistics

| | |
|---|---|
| Ownership | Wholly-owned by Northam Platinum Limited |
| Location | Eastern limb of the Bushveld Complex in Mpumalanga Province; adjacent to the Everest and Mototolo operations. Closest town is Mashishing (formerly Lydenburg) |
| Access and infrastructure | Tarred road access from Mashishing; new private road across the Der Brochen property now completed and in use.<br>16MW power secured from Amplats for construction; Eskom approved 20MVA; 5MVA self generation power has been installed and commissioned 7Ml of water secured for start-up |
| Project extent | 15 151 hectares; strike length of 14.5km |
| Reserves | 3.0Moz (3PGE+Au) |
| Resources | 103.0Moz (3PGE+Au) |
| Life of mine | 50 years and beyond |
| Project status | Infrastructure construction on track; mine construction advanced with box-cuts completed; on track for project start-up in H2 of F2012 |
| F2011 capex | R688.0 million |
| F2012 capex | R2.2 billion |

## The year in review

Previously outstanding regulatory approvals for the Booysendal mine, including an integrated water use licence and a new order mining right were all secured during the year. Progress on site has been satisfactory, and the project remains on track for production start-up in early 2013. Following completion of the boxcuts, the on-reef and reverse declines was handed over to the mining contractor and development has started. The bulk earthworks for mining infrastructure and the concentrator are largely complete with various terraces handed over to civil and building contractors.

## Capital expenditure

A total of R688.0 million (F2010: R132.4 million) was spent on capital expenditure for the Booysendal mine during the 2011 financial year, bringing the total capex spent to date to R870 million. In line with planning, project expenditure is anticipated to peak at R2.2 billion during F2012. Finalisation of the design of the slimes dam and certain scope changes to the project, have resulted in the total projected project cost increasing to R3.9 billion in June 2011 money terms.

## Funding options

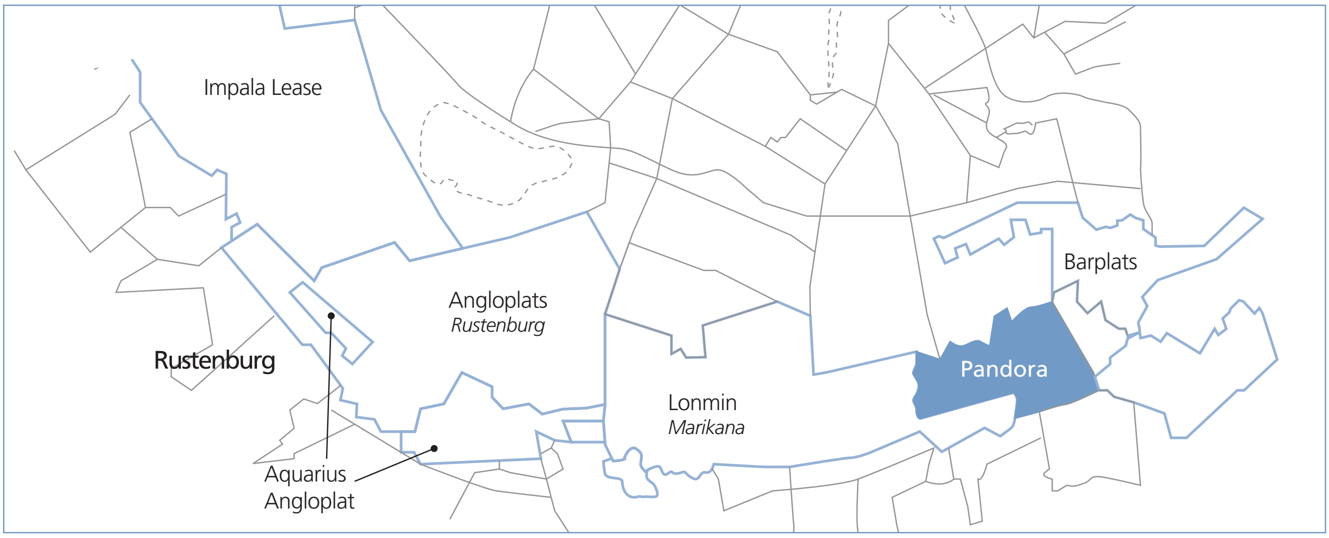
Management is in the process of securing access to additional funding in the form of a revolving credit facility to supplement its internal financial resources for the development of the Booysendal mine.

## Into F2012

Development and mining activities will continue apace in F2012, along with the construction of the concentrator plant.

*Reverse decline boxcut at Booysendal*

# OPERATIONS REVIEW cont.




## Pandora joint venture

### Pandora joint venture – key statistics

| | |
|---|---|
| Ownership | Lonmin: 42.5%; Amplats:42.5%; Northam: 7.5%; Bapo Ba Mogale Mining Company: 7.5% |
| Location | Western limb of the Bushveld Complex on certain portions of the farms Hartebeespoort, Roodekopjes and Uitvalgrond near Brits in the North West Province adjacent to Eastern Platinum Mine (EPM) |
| Access and infrastructure | Existing infrastructure at EPM has been utilised to gain quick access to the Pandora mine |
| Reserves (total) | 1.3Moz (3PGE+Au) |
| Resources (total) | 21.3Moz (3PGE+Au) |
| Resources* | 1.6Moz (3PGE+Au) |
| Reserves* | 0.1Moz (3PGE+Au) |
| Life of mine | 30 years and beyond |
| Project status | Pre-feasibility completed; stand-alone mine of 240 000tpm being considered |

** attributable to Northam*

## The year in review

The Pandora joint venture (Pandora) continues to produce on a relatively small scale from Lonmin's infrastructure. Lonmin purchases 100% of the ore produced from Pandora. Pandora produced 44 341 saleable ounces of total PGMs for the year ending 30 September 2010 and contributed R7.2 million to Northam's revenues for the year.

## Dwaalkop joint venture

### Dwaalkop joint venture – key statistics

| | |
|---|---|
| Ownership | Lonmin: 41.0%; Incwala Resources: 9.0%; Northam: 50.0% |
| Location | Northern portion of the eastern limb of the Bushveld Complex near Zebediela in the Limpopo Province adjacent to Baobab Platinum Mine (BPM) |
| Access and infrastructure | Existing infrastructure at BPM could be utilised to gain access to the Dwaalkop prospect |
| Reserves (total) | 5.7Moz (3PGE+Au) |
| Resources (total) | 17.8Moz (3PGE+Au) |
| Reserves* | 2.9Moz (3PGE+Au) |
| Resources* | 8.9Moz (3PGE+Au) |
| Life of mine | Exploration project at present |
| Project status | Pre-feasibility completed in 2007; further feasibility study work being considered |

** attributable to Northam*

### The year in review

Resource modelling and mining feasibility study work has been progressed through the year by Lonmin plc who hold the management contract for the Dwaalkop joint venture (Dwaalkop). Northam took ownership of 50% of the project in June 2011 following its acquisition of Mvelaphanda Resources.

### Into F2012

Northam will continue to assess the available options to turn the Dwaalkop orebody to account.

## Trans Hex Group Limited

With the acquisition of the entire share capital of Mvela Resources Northam has acquired a 20.3% stake in the Trans Hex Group Limited (Trans Hex). Trans Hex turned in a respectable performance for the year ended 31 March 2011, generating profits of R116 million from the South African operations.

There have also been a number of fundamental changes to the business over the past 12 months with progress in Angola: the Somiluana mine is profitable and there is progress on the disposal of the Fucuama and Luarica operations.

Trans Hex remains confident that market demand for diamonds is likely to be sustained, although pricing levels should stabilise in the longer term.

## Kokerboom exploration project

Northam has acquired an initial participatory interest of 51% in the Kokerboom exploration project (a greenfields iron oxide-copper-gold and massive sulphide exploration project) in the northern Cape. Northam has committed R10 million to an aero-magnetic survey in the year ahead.