

OPERATIONAL REVIEW

OPERATIONS

ZONDEREINDE MINE – KEY FACTS AND STATISTICS

Ownership	Wholly-owned by Northam Platinum Limited.
Location	On the northern part of the western limb of the Bushveld complex in Limpopo province, adjacent to the Amplats Tumela mine.
Access and infrastructure	Well-established infrastructure, tarred roads, railway, water and power.
Project extent	7 625 hectares; strike length of 8km
Reserves	7.2Moz
Resources	80.7Moz
Life of mine	14 years
Operations	Underground mining operations exploit both the Merensky and UG2 reefs at an average depth of 1 750m. Hydropowered equipment is used extensively in stoping and development operations. Surface metallurgical infrastructure includes two concentrator plants (Merensky and UG2) a base metals removal plant and a smelter. In-house marketing and sales. Metal sold to customers in Japan, Europe, North America.
Production profile	Steady state, mature operation with annual output of approximately ~300 000oz.
F2013 capex	R349.7 million
F2014 capex (est)	R384.5 million
F2013 cash costs	R309 421/kg

KEY SOCIAL INDICATORS:

SAFETY

- 1 fatality (F2012: 2)
- LTIIR¹ – 1.50 per 200 000 hours (F2012: 1.91)
- RIIR² – 0.83 per 200 000 hours (F2012: 0.88)
- FIIR³ – 0.01 per 200 000 hours (F2012: 0.02)
- 18 production shifts lost owing to Section 54 stoppages

Falls of ground (FOGs) reduced since the introduction of the Chamber of Mines MOSH initiatives.

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

PEOPLE, COMMUNITY AND ENVIRONMENT

- 380 affordable houses built to date
- TORO Empowerment Fund absorbed R24.0 million
- 17 days lost owing to unprocedural RDO strike
- R375 000 spent on studies for graduate internship programme
- The new Air Quality Control Act came into effect in 2013

ZONDEREINDE OPERATING STATISTICS

	% change	F2013	F2012
Merensky reef			
Development metres	10.3	6 604	5 988
Square metres mined	4.1	174 349	167 475
Tonnes milled	8.3	958 211	884 660
Head grade (g/tonne – 3PGE + Au)	(1.7)	5.8	5.9
Available ore reserves in months	11.1	20	18
UG2 reef			
Development metres	(42.8)	1 596	2 792
Square metres mined	1.0	173 635	171 894
Tonnes milled	10.3	1 157 501	1 049 017
Head grade (g/tonne – 3PGE + Au)	(4.5)	4.2	4.4
Available ore reserves in months	–	24	24
Combined reefs			
Development metres	(6.6)	8 200	8 780
Square metres mined	2.5	347 984	339 369
Tonnes milled	9.4	2 115 712	1 933 677
Head grade (g/tonne – 3PGE+Au)	(3.9)	4.9	5.1

Key developments during the year

Zondereinde's improved performance in F2012 was sustained in F2013, with a 9.4% increase in tonnes milled to 2 115 712 (958 211 Merensky; 1 157 501 UG2). The 3PGE+Au combined head grade dropped by 3.9% to 4.9 g/t compared to 5.1 g/t in F2012. This drop reflects the increased contribution of UG2 ore to the combined production, along with the 5% drop in the grade of the UG2 ore, owing to poor grade control. This will be a key focus area for management in the year ahead. Available ore reserves are currently at 20 months for Merensky reef and 24 months for UG2.

Metals produced from underground operations were 5.4% higher. This was offset by a significant decline in metals from secondary material, resulting in a marginal rise in total mine production to 9 041kg (F2012: 8 979kg). Volumes of concentrates purchased declined by 13.0% from 1 877kg in F2012 to 1 633kg in the current year. This is mainly due to the interruption of smelting activities both in July to September 2012 and again in May 2013.

The mining strategy at Zondereinde continues to be to open up ore reserves in the north-west quadrant and also on the lower levels of the mine to access normal Merensky reef. Shareholders were advised on

23 May 2013 that the smelter at Zondereinde would be shut down and rebuilt following the unexpected erosion of the refractory bricks comprising the walls of the smelter in proximity to the slag level interface. The rebuild, using a different brick specification, is expected to be completed by the beginning of October 2013. The smelter was previously rebuilt in F2012 after a run-out.

COSTS AND CAPITAL EXPENDITURE

The higher volumes sold at Zondereinde combined with higher operating costs pushed the cost of sales to R3.8 billion, 14% up year on year. Operating cost increases were held to 7.3% – impacted by

higher labour and power costs. The cost of sales was also adversely affected by a 60.6% increase in refining costs, occasioned by a weaker rand and the outsourcing of smelter services. Also included in cost of sales was a R33 million write-down in respect of the smelter. Capital expenditure amounted to R349.7 million, allocated to the deepening project (R120 million), the furnace rebuild (R41 million and maintenance capex (R188.7 million). The estimate for F2014 is R384.5 million, and includes an estimated R55 million for the smelter rebuild, R152 million on deepening infrastructure and the balance on maintenance capital expenditure.

BOOYSENDAL PLATINUM MINE – KEY FACTS AND STATISTICS

Ownership	Wholly-owned by Northam Platinum Limited
Location	Eastern limb of the Bushveld Complex in Mpumalanga Province near the Mototolo operation. Closest town is Mashishing.
Access and infrastructure	Tarred road access from Mashishing; private road across Der Brochen property. Water and Eskom power supply secured and installed. 5MW self-generation energy in place.
Project extent	15 151 hectares; strike length 14.5km
Reserves	3.17Moz
Resources	103.2Moz
Life of mine	50 years+
Operations	Mechanised room-and-pillar underground operations. Underground operations are serviced by a cluster of four declines (three on reef and one in the footwall), and accessed by a reverse decline system. Surface metallurgical infrastructure includes a UG2 concentrator and a dense media separation plant. Material is smelted at Zondereinde.
Production profile	Recently commissioned; steady state production of 160 000oz expected in F2016
F2013 capex	R1.5 billion
F2014 capex (est)	R532.1 million

SAFETY

- One million fatality free shifts achieved on 8 March 2013
- LTIIR – 0.53 per 200 000 hours
- RIIR – 0.33 per 200 000 hours
- No production shifts lost owing to section 54 and 55 stoppages

COMMUNITY AND ENVIRONMENT

Community land invasions hampered the installation of power lines to the mine. Following an appeal to the courts, and the company's numerous meetings with the land invaders, the powerline was eventually completed and the plant was successfully commissioned. Members of management have tried to assist community members with their land claims.

KEY DEVELOPMENTS DURING THE YEAR

With the construction of the mine nearing completion, the total workforce has been reduced to 1 915 people. Permanent power from Eskom was commissioned in March 2013 while the cold and hot commissioning phases of the concentrator continued until the financial year end. A number of minor problems have been identified and are in the process of being rectified.

A total of 242 602 tonnes were milled in the year, to produce 473kg of metal in concentrate which has been processed. Owing to the shutdown of the smelter at Zondereinde in May this year, metal sales from Booyssendal were restricted to 109kg. In order to counter certain delays in the construction of conveyors and other services underground, management has taken on additional contractors in a temporary capacity to mitigate any delays to the production build-up.