

OPERATIONS OVERVIEW

WHOLLY OWNED MINES

We own and manage four mining complexes – Mogalakwena, Amandelbult, Mototolo (since November 2018) and Unki. These stretch across the Bushveld complex in South Africa, while Unki is on Zimbabwe's Great Dyke. Except for the open-pit Mogalakwena, all mines are underground conventional and mechanised operations. We also have a number of projects, largely on the Eastern Limb of the Bushveld complex. The Twickenham project was placed on care and maintenance in 2016.

Key features

Zero fatalities

at managed operations, first time in the history of the company

13%

improvement in TRCFR

Record production

from Mogalakwena and Unki mines

1% increase

in total PGM production to 2.6Moz despite the impact of Eskom power outages

Economic free cash flow increased by

191%

to R15.6 billion

EBITDA doubled to

R23 billion

leading to an increase in EBITDA margin to 44%

Mogalakwena

Deliver world-class open-pit operating practices



Amandelbult

Dishaba UG2 Ramp up progressing at low capital investment



Mototolo/Der Brochen

Invest in low-capex chrome interstage and debottlenecking



Unki

Improve margin by increasing concentrator throughput



Modikwa/Kroondal (JVs)

Modikwa – restructure cost base and invest in chrome plant



Processing

Achieve world-class operating practices



Strategy

Working with our executive and senior leadership, our wholly owned mines focused on embedding the company strategy and striving for operational excellence. We have identified areas for operational improvement and we aim to enhance and deliver on project execution, mining engineering, improving the cost base and safety performance.

With restructuring largely complete, the next phase of the strategy focuses on driving further value from our operations in **two key areas**:

Extracting the full potential from our operations through our people and innovation

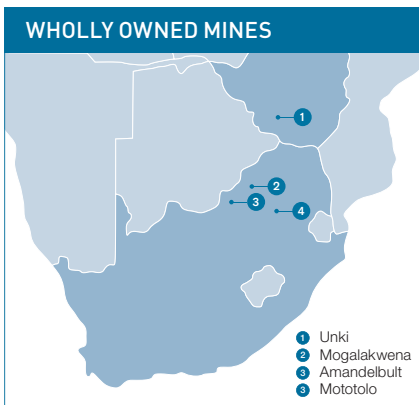


- ▼ Achieving world benchmark performance, and then redefining industry-best performance through innovation, technology and digitalisation

Investing in our portfolio to deliver industry-leading cash flows and returns



- ▼ Focus on low-capex, fast-payback projects, including chrome plant expansions, debottlenecking and replacement projects



OPERATIONS OVERVIEW CONTINUED



Drill rigs in Mogalakwena Central pit – Cut 8 – Thabana Mashishi (drill operator)

Key features

- ✓ **10.5 million**
 fatality-free shifts (eight-and-a-half years)
- ✓ Record PGM and platinum production, up
4% and 5%
 respectively
- ✓ Increased EBITDA by
74%
- ✓ Economic free cash flow increased
146%
 to R9.9 billion

MANAGED MINES – MOGALAKWENA

Mogalakwena Mine is 30km north-west of the town of Mokopane in Limpopo province and operates under a mining right covering 372km². Current infrastructure comprises five open pits (Sandsloot, Zwartfontein, Mogalakwena South, Central and North). The mining method is truck-and-shovel, and current operating pit depths vary from 45m to 245m. Ore is milled at the on-mine North and South concentrators as well as Messina Mine Baobab concentrator.

Mogalakwena strategy

INVESTING IN GROWTH

- ▼ Construct 3rd concentrator with breakthrough technology
- ▼ Upgrade and debottleneck existing concentrators
- ▼ Examining underground mining options

ACHIEVE BENCHMARK

- ▼ Rope shovel efficiencies
- ▼ Slope-angle optimisation
- ▼ Optimising plant capacity
- ▼ Grade-recovery optimisation
- ▼ Asset integrity and maintenance

EXCEED BENCHMARK THROUGH TECHNOLOGY AND INNOVATION

- ▼ Drill-blast-load-haul opportunities
- ▼ Concentrator run-time
- ▼ Bulk ore sorting
- ▼ Coarse particle rejection
- ▼ Shock breaking instead of compression crushing

MOGALAKWENA (MANAGED – 100% OWNED)		2019	2018
Safety			
Fatalities	Number	–	–
TRCFR	Rate/ million hrs	1.24	0.95
Total PGM production	000 oz	1,215.0	1,170.0
Net sales revenue	Rm	25,845	18,106
EBITDA	Rm	14,375	8,249
EBITDA margin	%	55.6	45.6
ROCE	%	55.3	30.8
Economic free cash flow	Rm	9,935	4,039
Net cash flow	Rm	9,715	3,916
Cash on-mine cost/tonne milled	R/tonne	488	456
Cash operating cost/PGM oz produced	R/PGM oz	8,181	7,838
Cash operating cost/Pt oz produced	R/Pt oz	19,208	18,522
AISC produced		(421)	222
AISC sold		(429)	286
MINERAL RESOURCES INCLUSIVE OF ORE RESERVES			
Platreef		3,493.9Mt	⇒ 276.4 (4E) Moz
<i>*Includes Measured Resource stockpile of 67.5Mt ⇒ 4.0 (4E) Moz</i>			

SAFETY

Mogalakwena has been fatality-free for over seven years although the TRCFR deteriorated to 1.24 in 2019. We continue to embed the revised safety, health and environment strategy, and focus on reporting and learning from high-potential incidents.

PERFORMANCE

Mogalakwena's production increased 4% to 1,215,000 PGM ounces. This included strong production from the Baobab concentrator plant of 102,800 PGM ounces (2018: 92,600 PGM ounces).

In 2019, a new mining cut was started, with increased waste tonnes mined. This led to a decrease in ore mined over the period, partially offset by a drawdown from ore stockpiles. Ore tonnes mined were affected by rock-fall risk-mitigation measures at the Zwartfontein pit, which led to higher waste capital tonnes mined to replace planned ore tonnes. Production was also affected by the maintenance shut-down on the secondary mill at North concentrator in the first half, as well as lower equipment availability following a major rebuild on the rope shovel in October/November 2019. Greater mining equipment availability, the purchase of additional trucks, and mining the exposed ore tonnage area will increase the total and ore tonnes mined in 2020.

Cash operating costs (after allowing for off-mine smelting and refining activities) increased 8% to R10 billion. Including capitalised waste stripping, cash operating costs rose 12% to R12 billion. Cash operating costs per platinum ounce increased 4% to R19,208 from R18,522 in 2019 on input cost inflation and drawdown of ore stockpiles which contributed R1,210/Pt oz to the increase. Cash operating costs per PGM ounce (metal in concentrate) were R8,181 against R7,838 per ounce in 2018.

Mogalakwena delivered R9.9 billion of economic free cash flow (operating free cash flow from consolidated activities less/add economic interest in the asset). The mine had an EBITDA margin of 56% and ROCE of 55%.

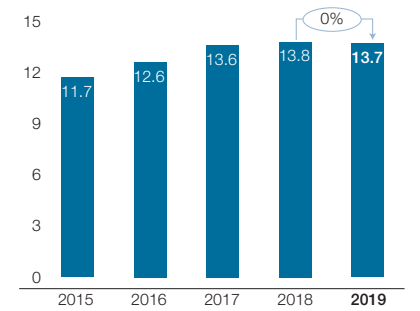
All-in sustaining costs (AISC) (includes operating costs as defined above, all sustaining capital expenditure, capitalised waste stripping and allocated marketing and market development costs net of by-product revenue) per platinum ounce sold was -USD429 per ounce compared to USD286 in the previous year, mainly due to the benefit of increased by-product revenue.

CAPITAL EXPENDITURE

Total capital expenditure (excluding capitalised waste stripping and after allocating off-mine smelting and refining

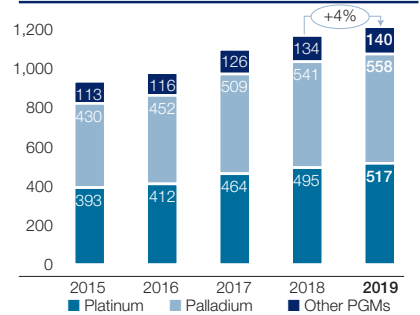
MINING AND CONCENTRATING

Tonnes milled (million)



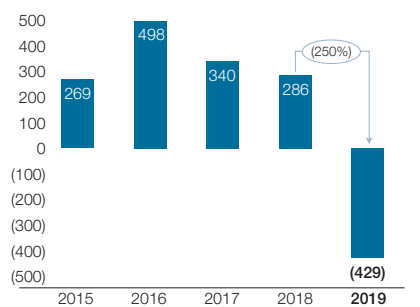
CONCENTRATING

(PGM ounces 000)



VALUE ENHANCING

(AISC USD/Pt oz sold)



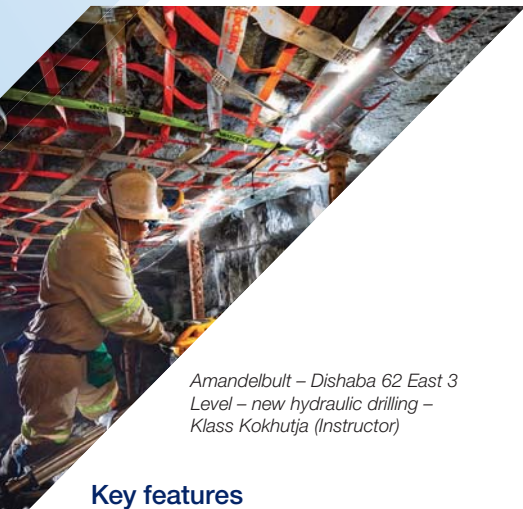
capital) rose to R2.4 billion in 2019. Stay-in-business capital expenditure was R2.2 billion (R1.8 billion in 2018) and project capital expenditure increased to R0.2 billion (R0.1 billion in 2018).

Capitalised waste stripping rose to R2.1 billion in 2019 (R1.5 billion in 2018), and is expected to be around R2.3 billion to R2.5 billion in 2020.

OUTLOOK

In 2020, Mogalakwena is expected to produce 1,210,800 PGM ounces.

OPERATIONS OVERVIEW CONTINUED



Amandelbult – Dishaba 62 East 3 Level – new hydraulic drilling – Klass Kokhutja (Instructor)

Key features

- ✓ **Fatality-free**
year and improved safety performance

- ✓ Improved TRCFR of
3.23
the lowest since inception

- ✓ **3% increase**
in PGM ounces, including
453,600 platinum ounces

- ✓ Production from the chrome plant rose
9%
yielding 908,700 tonnes of chrome
concentrate

- ✓ Economic free cash flow increased by
443%
to R3.3 billion

- ✓ EBITDA more than doubled to
R5.1 billion
leading to higher EBITDA margin
of 91%

MANAGED MINES – AMANDELBULT

The Amandelbult complex is in Limpopo, between the towns of Northam and Thabazimbi, on the North-western Limb of the Bushveld complex. It operates under a mining right covering 141km².

The complex has two mines (Tumela and Dishaba) and three concentrators with a chrome plant. Current working mine infrastructure has five vertical and seven decline shaft systems to transport rock, men and material, with mining on the Merensky and UG2 reef horizons. The layout is conventional scattered breast mining with strike pillars and open pits. The operating depth for current workings runs from surface to 1.3km below surface. Short-life, high-value open-pit mining supplements underground production as this transitions from Tumela Upper to Dishaba Lower UG2.

Amandelbult strategy

MODERNISATION

- ▶ Embedding operating model
- ▶ Dishaba Mine UG2 ramp up
- ▶ Productivity and efficiency improvement from cycle mining
- ▶ Modernisation roll-out

LOW-CAPITAL PROJECTS

- ▶ 15E mechanised extension
- ▶ 8W and Middellaagte mechanised options Central Mine currently being investigated

EXPANDING CHROME PRODUCTION

- ▶ Chrome plant optimisation
- ▶ Yield efficiency improvement
- ▶ Fine chrome recovery

AMANDELBULT (MANAGED – 100% OWNED)		2019	2018
Safety			
Fatalities	Number	–	2
TRCFR	Rate/ million hrs	3.23	3.77
Total PGM production	000 oz	893.3	868.8
Net sales revenue	Rm	17,424	13,192
EBITDA	Rm	5,132	2,031
EBITDA margin	%	29.5	15.4
ROCE	%	49.4	16.6
Economic free cash flow	Rm	3,278	603
Net cash flow	Rm	2,602	254
Cash on-mine cost/tonne milled	R/tonne	1,455	1,281
Cash operating cost/PGM oz produced	R/PGM oz	12,654	11,441
Cash operating cost/Pt oz produced	R/Pt oz	24,923	22,457
AISC produced		427	840
AISC sold		390	794

MINERAL RESOURCES INCLUSIVE OF ORE RESERVES

Merensky Reef **159.8 Mt** ⇨ **35.4 (4E) Moz**
 UG2 Reef **374.1 Mt** ⇨ **65.8 (4E) Moz**

SAFETY

Management’s commitment to maintaining safe operations is producing results. The mine achieved a fatality-free year and improved its safety performance. TRCFR is the lowest on record, down 14% to 3.23 (2018: 3.77) after implementing the revised safety, health and environment strategy and the emphasis on reporting and learning from high-potential incidents.

Amandelbult reached several safety milestones during the year:

- ▼ Tumela Mine – 4.7 million fatality-free shifts
- ▼ Dishaba Mine – 51.7 million fatality-free shifts
- ▼ Amandelbult central services – 3.4 million fatality-free shifts to date
- ▼ Amandelbult concentrator: 6.4 million fatality-free shifts.

PERFORMANCE

Total PGM production rose 3%, reflecting the strategy to ramp-up the Dishaba UG2 section and improved safety performance with fewer safety-related stoppages.

As Amandelbult transitions mining from Tumela upper section to Dishaba lower section, it will become primarily a UG2 mine.

Production from the chrome plant increased 9%, yielding 908,700 tonnes of chrome concentrate on a 100% basis (2018: 831,900 chrome tonnes). This is partly due to a 14% increase in plant feed, offset by a reduction in the plant yield to

15.1% (2018: 15.7%). Chrome recovery capacity was extended to the Merensky concentrator by constructing two more chrome modules at a capital cost of R530 million. These modules were commissioned in the third quarter of 2019 and will result in an incremental 340,000 tonnes of chrome production per annum.

Amandelbult chrome operations generated attributable economic free cash flow of R384 million (2018: R664 million), reflecting a 1% decline in sales volume to 701,600 tonnes and 33% decline in the chrome price (to average USD121 per tonne from USD178 per tonne in 2018).

Amandelbult delivered economic free cash flow of R3.3 billion, with an EBITDA margin of 30% and return on capital employed of 49%.

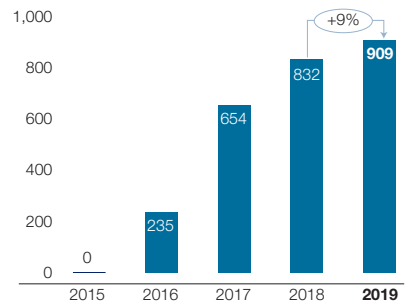
AISC per platinum ounce sold was USD390 (USD794 in 2018), due to improvements in the rand basket price and a greater contribution from chrome.

CAPITAL EXPENDITURE

Total capital expenditure (after allocating off-mine smelting and refining capital) rose to R1.4 billion in 2019 (R1.2 billion in 2018) due to modernisation, mechanising the mine and chrome expansion. Stay-in-business capital expenditure was R680 million and project capital was R720 million (2018: R750 million and R450 million respectively) to construct additional modules for the chrome plant.

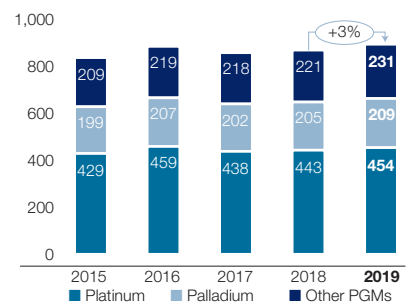
CHROME

(Tonnes produced)



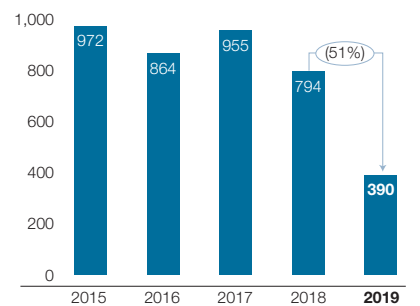
MINING AND CONCENTRATING

(PGM ounces 000)



VALUE ENHANCING

(AISC USD/Pt oz sold)



OUTLOOK

Total production from Amandelbult in 2020 is expected to rise to around 924,600 PGM ounces, with some 470,400 platinum ounces. Further low-capital options to improve profitability are being studied. Two projects under consideration (extraction strategy for Central mine (including 8 West and Middellaagte mechanisation and unlocking potential at 15E mechanised extension) will enable Amandelbult to sustain production. Fine chrome recoveries are being studied, depending on technology and innovation, which will increase chrome production.

OPERATIONS OVERVIEW CONTINUED



Mototolo concentrator

Key features

✓ **Fatality-free**
since 2011 and improved TRCFR 16% to 1.64

✓ Mototolo concentrator achieved
1,434
injury-free days at end-December 2019

✓ Mototolo reached
4.4 million
fatality-free shifts

✓ Economic free cash flow of
R1.4 billion
in 2019

✓ EBITDA more than doubled to
R2 billion
raising EBITDA margin to 43%

MANAGED MINES – MOTOTOLO

Mototolo became wholly owned in November 2018. Situated in Limpopo, it is 30km west of the town of Burgersfort in the Eastern Limb of the Bushveld complex and operates under a mining right covering 9km². Current infrastructure comprises two decline shafts, Lebowa and Borwa, and a concentrator. Mototolo is fully mechanised and extracts the UG2 horizon some 450m below surface using bord-and-pillar mining.

Mototolo strategy

INTEGRATE AND EMBED

- ▼ Integration as wholly owned business well advanced

OPERATIONAL PERFORMANCE IMPROVEMENT

- ▼ Accessing Der Brochen triangle and Two Rivers ground through existing shaft infrastructure
- ▼ Debottlenecking concentrator to 240,000tpm
- ▼ Chrome interstage increasing yield

INVESTING IN DER BROCHEN

- ▼ PGM hub on Eastern Limb (30+ years life of mine) with replacement and growth optionality

SAFETY

Mototolo has been fatality-free for eight years and achieved a TRCFR of 1.64 in 2019, a 16% improvement from 2018.

PERFORMANCE

Total PGM production decreased 16% to 242,300 ounces. The mine had a one-off benefit of 20,800 PGM ounces (platinum: 9,800 and palladium: 6,100) in 2018 from stockpiled material that was toll-concentrated at Bokoni. Normalised for this benefit, PGM production was down 9% year on year.

Production was largely impacted by three weeks of unprotected industrial action in the first half, with the loss of 8,700 PGM ounces, and transitioning through a difficult ground area containing geographical features.

Production at Mototolo is expected to normalise in 2020, as it unlocks the synergies of access to Der Brochen ground and acquisition of congruent ground from Two Rivers Mine.

Mototolo increased economic free cash flow to R1.4 billion from R0.2 billion in 2018, lifting the EBITDA margin to 43% and ROCE to 54% (2018: 29% and 24% respectively).

MOTOTOLO PLATINUM MINE (100% OWNED OPERATION FROM 1 NOVEMBER 2018)		2019	2018
Safety			
Fatalities	Number	-	-
TRCFR	Rate/ million hrs	1.64	1.95
Total PGM production	000 oz	242.3	287.7
Net sales revenue	Rm	4,506	2,030
EBITDA	Rm	1,956	591
EBITDA margin	%	43.4	29.1
ROCE	%	53.6	23.5
Economic free cash flow	Rm	1,358	200
Net cash flow	Rm	1,321	200
Cash on-mine cost/tonne milled	R/tonne	879	815
Cash operating cost/PGM oz produced	R/PGM oz	9,747	8,979
Cash operating cost/Pt oz produced	R/Pt oz	21,078	19,518
AISC produced		170	637
AISC sold		73	684

MINERAL RESOURCES INCLUSIVE OF ORE RESERVES
UG2 Reef **47.8 Mt ⇨ 6.2 (4E) Moz**

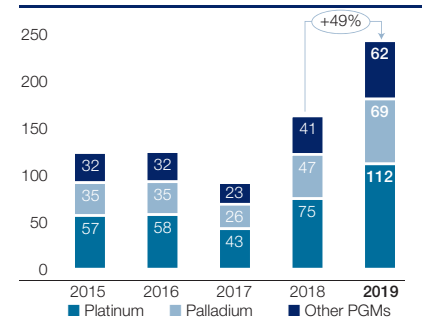
CAPITAL EXPENDITURE

Total capital expenditure (after off-mine smelting and refining capital) increased to R511 million from R458 million in 2018. Stay-in-business capital expenditure was R474 million, while project capital expenditure was R37 million (2018: R458 million and R0 respectively).

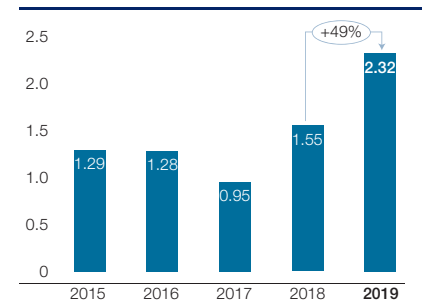
OUTLOOK

Total production from Mototolo in 2020 is expected to rise to around 289,900 PGM ounces, with some 133,600 platinum ounces. The increase mainly reflects the inclusion of the Der Brochen triangle and Two Rivers ground. Further low-capital options to improve profitability are being studied.

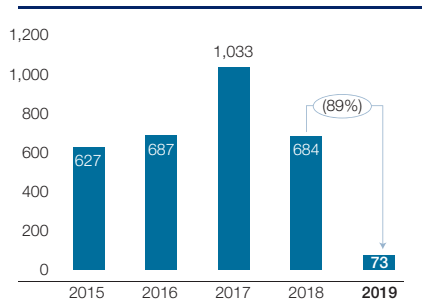
MINING AND CONCENTRATING (PGM ounces 000)



CONCENTRATING (Tonnes milled (million))



VALUE ENHANCING (AISC USD/Pt oz)



TWICKENHAM PROJECT (MANAGED – 100% OWNED)

The Twickenham project potentially offers long-term prospects for shallow mechanised mining on both the UG2 and Merensky reef horizons. In the current commodity price environment, we have delayed all expansionary project decisions to after 2020. Twickenham was placed on care and maintenance in 2016, and part of the mining footprint was used to research new mining technology, including small-scale mining activity, which was stopped in 2018.

OPERATIONS OVERVIEW CONTINUED



Mogalakwena Central Pit –
hydraulic shovel loading haul truck

Key features

✓ Fatality-free

for eight years

✓ TRCFR of

0.58

is the lowest since inception

✓ Record production with

5% increase

in PGM ounces, including 89,400 platinum ounces

✓ Economic free cash flow increased by

103%

to R1.1 billion

✓ EBITDA increased to

R1.5 billion

lifting EBITDA margin to 35%

MANAGED MINES – UNKI PLATINUM MINE – ZIMBABWE

Unki Mine Private Limited's operations are on the Great Dyke in Zimbabwe, 60km south-east of the town of Gweru. The mine is a mechanised, trackless, bord-and-pillar underground operation. A twin-decline shaft system provides access to underground workings for men and material, as well as ore conveyance. Both shafts are now 2,491m from the portal on surface. Twenty-four mining sections have been established so far (with five decommissioned), 17 of which are fully equipped and have strike belts for transferring ore directly to the main incline shaft conveyor. Run-of-mine ore is processed at the 120,000tpm concentrator plant on site. Since commissioning the concentrator plant nine years ago, ongoing debottlenecking has enabled it to treat up to 180,000tpm.

Unki strategy

OPERATIONAL IMPROVEMENT

- ▼ Team efficiency improvements
- ▼ Grade improvement by reducing mining height
- ▼ Process improvements; concentrator run-time, recovery, mass pull, matte grade
- ▼ Implement operating model

LOW-CAPITAL DEBOTTLENECK OF CONCENTRATOR

- ▼ Infrastructure development (silo, workshop, ventilation) required to sustain production as mine transitions from east to west
- ▼ Debottlenecking project (low-capital and fast-payback) to 210,000tpm

LONG-DATED STRATEGIC GROWTH POTENTIAL

- ▼ Ownership of 9% of known Zimbabwean mineral resource
- ▼ Options to explore long-dated replacement or growth options at Unki North, Paarl and Helvetia mining areas

UNKI PLATINUM MINE (MANAGED – 100% OWNED)		2019	2018
Safety			
Fatalities	Number	–	–
TRCFR	Rate/ million hrs	0.58	1.45
Total PGM production	000 oz	201.7	192.8
Net sales revenue	Rm	4,403	2,884
EBITDA	Rm	1,520	835
EBITDA margin	%	34.5	28.9
ROCE	%	23.7	9.3
Economic free cash flow	Rm	1,064	525
Net cash flow	Rm	1,011	155
Cash on-mine cost/tonne milled	R/tonne	893	863
Cash operating cost/PGM oz produced	R/PGM oz	11,721	10,784
Cash operating cost/Pt oz produced	R/Pt oz	26,437	24,180
AISC produced		119	449
AISC sold		88	616
MINERAL RESOURCES INCLUSIVE OF ORE RESERVES			
MSZ		223.9 Mt ⇨ 30.1 (4E) Moz	

SAFETY

Unki has been fatality-free for eight years and its TRCFR improved 60% to 0.58 after launching the stop-and-fix campaign.

PERFORMANCE

Total PGM production rose 5%, a record performance. This was driven by improved underground mining efficiencies resulting in better ore deliveries to the concentrator, and a 9% increase in tonnes milled on improved feed rate and mill run-time. These increases were partly offset by a 2% decrease in 4E built-up head grade.

Unki delivered R1.1 billion of economic free cash flow and an EBITDA margin of 35% as well as return on capital employed of 24%.

AISC (excluding receipts of treasury bills) per platinum ounce sold was USD88, down from USD616, due to the benefit of increased by-product revenue offset by the RTGS forex loss.

CAPITAL EXPENDITURE

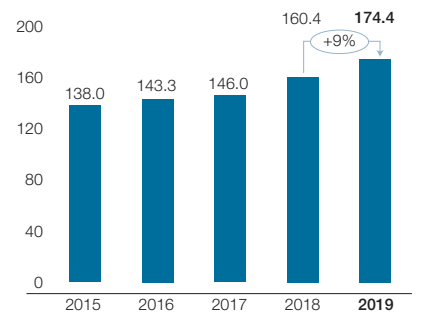
Total capital expenditure (after off-mine smelting and refining capital) decreased to R366 million from R598 million in 2018. Stay-in-business capital expenditure was R313 million, while project capital expenditure was R53 million (2018: R228 million and R370 million respectively).

OUTLOOK

Total PGM production from Unki in 2020 is expected to be around 209,000 PGM ounces, including some 92,800 platinum ounces. Unki is debottlenecking the mine and concentrator, and increasing concentrator plant capacity to 180,000tpm.

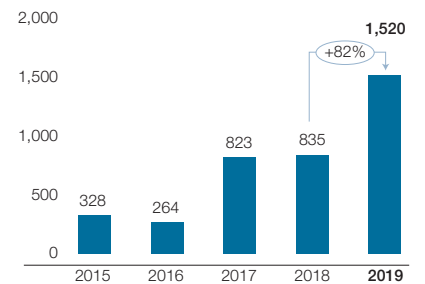
MINING AND CONCENTRATING

Tonnes milled (average ktpm)



VALUE ENHANCING

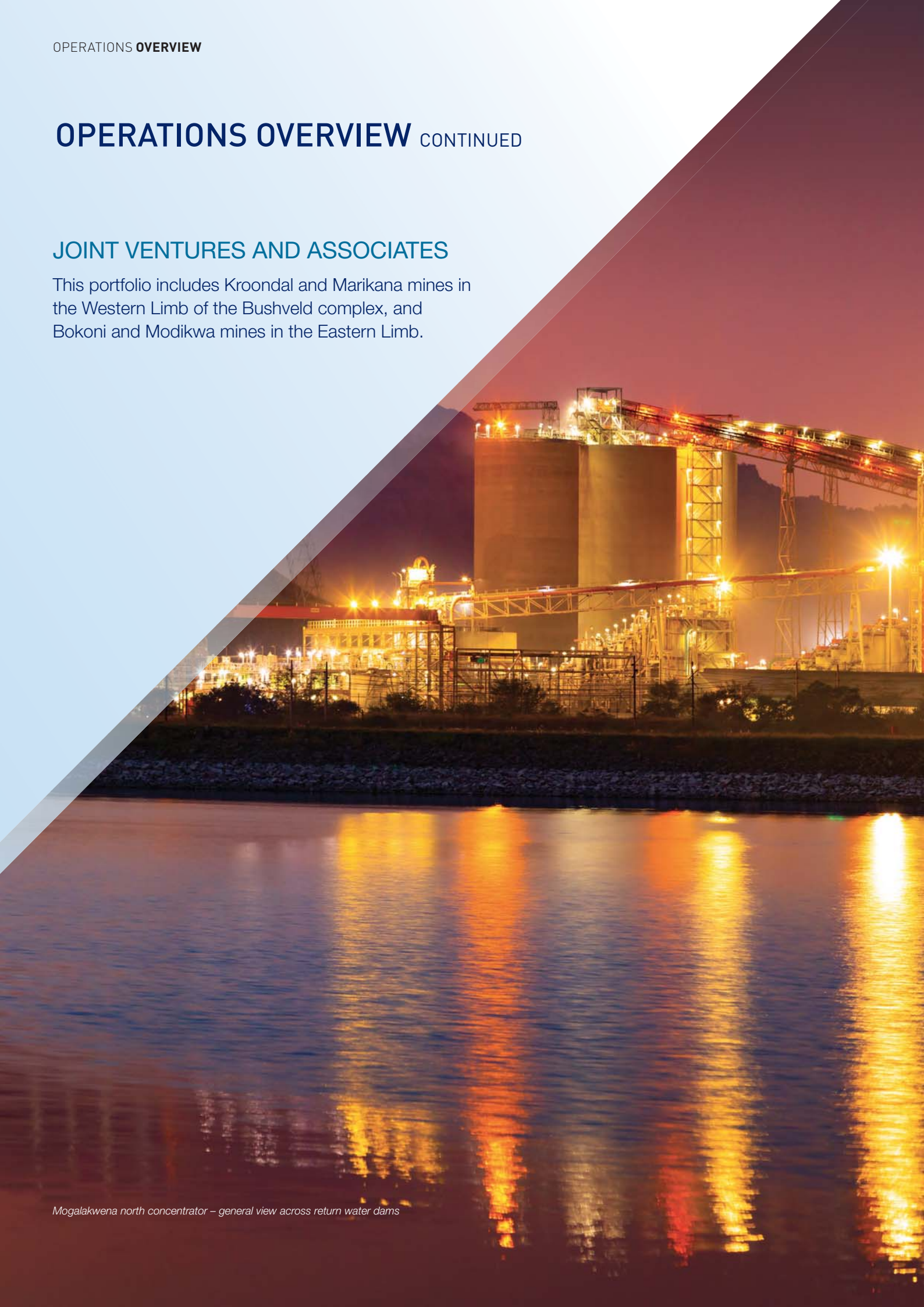
EBITDA (million)



OPERATIONS OVERVIEW CONTINUED

JOINT VENTURES AND ASSOCIATES

This portfolio includes Kroondal and Marikana mines in the Western Limb of the Bushveld complex, and Bokoni and Modikwa mines in the Eastern Limb.



Mogalakwena north concentrator – general view across return water dams

Key features

✗ One fatality

at Modikwa Mine

✓ Record operational performance across the

Kroondal

portfolio

✓ **2%**

increase in total PGM production

✓ **196%**

increase in attributable economic free cash flow

JOINT VENTURE AND ASSOCIATES' OPERATIONS		2019	2018
Fatalities	Number	1	1
	Rate/ million hrs	6.09	7.22
TRCFR			
Total PGM production	000 oz	918	954
Net sales revenue	R million	8,812	5,971
EBITDA	R million	3,579	1,618
EBITDA margin	%	40.6	27.1
ROCE	%	105.4	37.2
Operating free cash flow	R million	3,044	1,138
Net cash flow	R million	3,055	1,100
Cash on-mine cost/tonne milled	R/tonne	1,066	986
Cash operating cost/PGM oz produced	R/PGM oz	10,226	9,145
Cash operating cost/Pt oz produced	R/Pt oz	22,567	20,305

The joint-venture (JV) portfolio was established over a decade ago to promote industry transformation and optimise resource extraction. These are primarily underground mines and not operationally managed by Amplats. Mined ore is processed into concentrate at each mine. Amplats claims its portion and acquires the JV partners' portion of concentrate under purchase agreements.

In line with our strategy, we continue to restructure the JV portfolio:

2012
Marikana placed on care and maintenance

2016
Our 42.5% share of Pandora sold to Lonmin

2017
Bokoni placed on care and maintenance

2018
Acquired Glencore's 40.2% and Kagiso-Tiso's 9.8% interests in the Mototolo joint venture

Sold our 33% share of BRPM to Royal Bafokeng Platinum

Working with our JV partners, the focus for the last nine years has been on supporting these mines to achieve operational excellence. A dedicated Amplats team assists the JV operations with project execution, mining engineering, improving the cost base and safety performance.

We thank our managing JV partners for their contributions in 2019, despite another tough operating and financial environment. The portfolio remains focused on its strategic objectives:

- ▼ Rebuild operations to match installed capacity
- ▼ Secure future sustainability and profitability

OPERATIONS OVERVIEW CONTINUED

JOINT VENTURES AND ASSOCIATES CONTINUED

Modikwa Platinum Mine

Modikwa is an independently managed, equal JV between ARM Mining Consortium and Rustenburg Platinum Mines in Limpopo, 25km west of the town of Burgersfort. It forms part of the Eastern Limb of the Bushveld complex and operates under a mining right covering 140km². The current infrastructure comprises three primary decline shafts (North 1, South 1 and South 2), three adits on Onverwacht Hill and a concentrator with MIG (mainstream inert grinding) plant. The mine is a hybrid operation using conventional breast stoping with strike pillars, supported by trackless development and ore clearance. It extracts UG2 reef from surface to 450m below surface.

Key features

✘ One fatality

recorded at Modikwa Mine

✘ 12%

decrease in total PGM production

✔ EBITDA doubled to

R1.1 billion

leading to EBITDA margin of 36%

✔ Economic free cash flow of

R0.9 billion

in 2019

Strategy

RESTRUCTURE COST BASE AND OPTIMISE INFRASTRUCTURE

- ▼ Increase milling to 240,000tpm through improved underground feed from continuous development of declines
- ▼ Moving from large dimension footwall off-reef development to twin low-profile on-reef development
- ▼ South 1 life extended to 2028

UNLOCKING CHROME POTENTIAL

- ▼ Investing in a chrome recovery plant, first production in 2021

SAFETY

On 27 March, a fall-of-ground at Modikwa tragically resulted in a fatal injury to Mr Thomas Maluleke. After TRCFR regressed by 37% in 2019, we have engaged Mac Consulting, together with DuPont and IRCA, to conduct a safety diagnostic at the mine and develop a safety improvement roadmap. In addition, the mine is currently focused on specific initiatives to improve safety:

- ▼ Compliance baseline assessment
- ▼ Review of supporting systems, processes and controls
- ▼ Identifying gaps and developing corrective and preventative actions.

PERFORMANCE

Attributable PGM production, including 145,500 ounces purchased from the JV partner, decreased 12% to 291,000 ounces. Platinum production was down 12% at 114,200 ounces. The decrease is due to section 54 stoppages, a fatality in March, low equipment availability, insufficient face length as well as a slow start-up and timber shortage at the beginning of the year. Included in the 2018 numbers is the purchase of Mototolo ore of 12,300 PGM ounces.

Total development metres for 2019 were affected by excessive equipment breakdowns, procurement delays, flooding

MODIKWA PLATINUM MINE (NON-MANAGED – 50% OWNED)		2019	2018
Safety			
Fatalities	Number	1	–
TRCFR	Rate/ million hrs	8.83	6.46
Total PGM production	000 oz	291	330
Net sales revenue	Rm	2,988	2,138
EBITDA	Rm	1,080	566
EBITDA margin	%	36.0	26.4
ROCE	%	60.6	23.2
Operating free cash flow	Rm	869	381
Net cash flow	Rm	832	343
Cash on-mine cost/tonne milled	R/tonne	1,457	1,220
Cash operating cost/PGM oz produced	R/PGM oz	12,239	9,814
Cash operating cost/Pt oz produced	R/Pt oz	31,184	24,883
AISC produced		148	425
AISC sold		(86)	450
MINERAL RESOURCES INCLUSIVE OF ORE RESERVES			
Merensky Reef		107.0 Mt ⇨ 9.9 (4E) Moz	
UG2 Reef		132.9 Mt ⇨ 25.7 (4E) Moz	
JV PARTNER			
ARM MINING CONSORTIUM LIMITED			50%

in declines and poor roadway conditions. A decision was made in the second half to engage a development contractor for South 1 and 2 shafts and to renew or refurbish the existing equipment at North shaft. The contractor is currently completing the onboarding process.

These factors affected Modikwa's unit costs, rising 25% to R31,184 per platinum ounce, mainly due to lower production coupled with above-inflationary cost increases, eg diesel and labour. Cash operating cost per PGM ounce (metal in concentrate) was R12,239 against R9,814 in 2018.

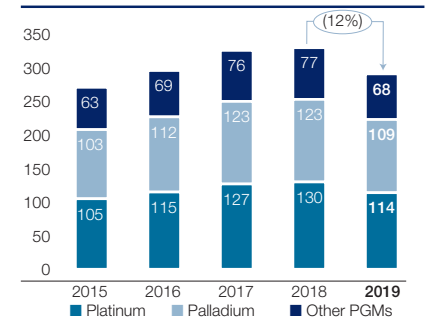
Modikwa increased economic free cash flow to R0.9 billion, compared to R0.4 billion in 2018. The mine had an EBITDA margin of 36% and ROCE of 61% (2018: 26% and 23% respectively).

CAPITAL EXPENDITURE

Amplats' attributable capital expenditure (after allocating off-mine smelting and refining capital) rose to R0.2 billion in 2019 (R0.1 billion in 2018). Stay-in-business capital expenditure was R175 million and project capital was R37 million (2018: R96 million and R38 million respectively) to construct the chrome plant.

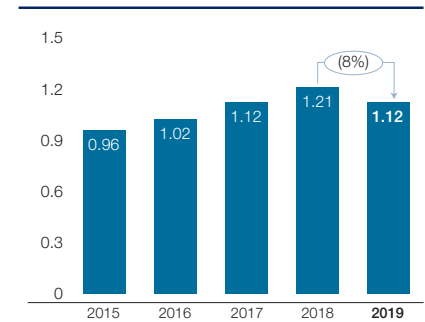
MINING AND CONCENTRATING

(PGM ounces 000)



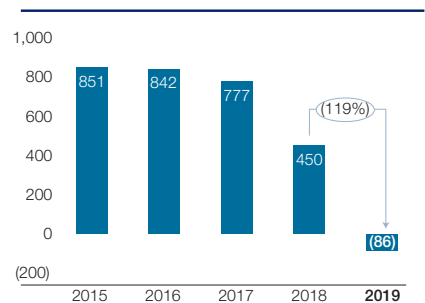
CONCENTRATING

Tonnes milled (million)



VALUE ENHANCING

[AISC USD/Pt oz]



OPERATIONS OVERVIEW CONTINUED

JOINT VENTURES AND ASSOCIATES CONTINUED

Kroondal Platinum Mine

Kroondal is a 50:50 pooling-and-sharing agreement between Sibanye-Stillwater and Rustenburg Platinum Mines, managed by Sibanye-Stillwater. It is in North West province, some 10km outside the town of Rustenburg, and up-dip of Rustenburg Platinum Mines. Kroondal forms part of the South-western Limb of the Bushveld complex and operates under a mining right covering 22km². Current infrastructure comprises five decline shafts and two concentrators. Kroondal is a partly mechanised bord-and-pillar operation mining UG2 reef exclusively up to a depth of 450m below surface.

Key features

✓ TRCFR of
5.54
improved 25%

✓ **Record**
hoisted tonnes and PGM production

✓ **187%**
increase in attributable economic
free cash flow

✓ **EBITDA**
doubled from 2018

Strategy

SHAFT AND LABOUR RATIONALISATION

▼ Gradual drop in production from 2020 with residual tail that requires shaft and labour rationalisation

MINING SIBANYE RUSTENBURG GROUND

▼ 2020 plan includes Kwezi Shaft mining into Khuseleka ground on a royalty basis

UPSIDE OPPORTUNITY

▼ Down-dip boundary extension into Sibanye ground at Kroondal JV shafts K6, Kopaneng, Simunye and Bambanani
▼ Possible future opencast mining of UG2 outcrop at Klipfontein

SAFETY

Safety performance improved in 2019, with a TRCFR of 5.54 down by 25%. Kroondal has rolled out a behavioural intervention campaign that includes a focus on fatigue and the year-end season.

PERFORMANCE

Attributable PGM production, including 313,500 ounces purchased from our JV partner, rose to 627,000 ounces. Platinum production rose to 297,300 ounces, supported by record tonnes delivered to the concentrators. Improved production mainly reflects greater underground efficiencies and higher concentrator recoveries, resulting from extra production shifts on Saturdays and changeover to a two-shift cycle at two shafts.

Productivity at 82.3 PGM ounces per employee improved 1% year on year

on higher production. Cash operating cost per PGM and platinum ounce was up 9% to R9,663 and R20,379 respectively, benefiting from higher production but offset by above-inflationary cost increases.

Kroondal delivered attributable economic free cash flow of R2.2 billion (2018: R0.8 billion), with an EBITDA margin of 43% and ROCE of 151%.

AISC per platinum ounce sold was -USD77, from USD495 in the prior year, due to improvements in the rand basket price, including a greater contribution from chrome. AISC, if all produced metal was sold, would be USD16 per platinum ounce.

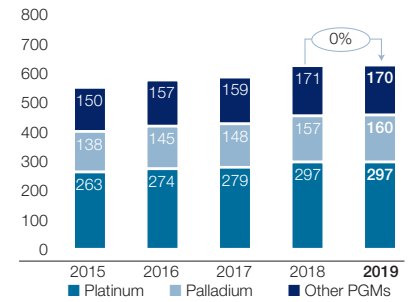
CAPITAL EXPENDITURE

Amplats' attributable capital expenditure (after allocating off-mine smelting and refining capital), at R0.2 billion, was in line with 2018.

KROONDAL PLATINUM MINE (NON-MANAGED – 50% OWNED)		2019	2018
Safety			
Fatalities	Number	–	1
TRCFR	Rate/ million hrs	5.54	7.40
Total PGM production	000 oz	627	624
Net sales revenue	Rm	5,824	3,833
EBITDA	Rm	2,499	1,052
EBITDA margin	%	42.9	27.4
ROCE	%	151.3	54.4
Operating free cash flow	Rm	2,174	757
Net cash flow	Rm	2,173	757
Cash on-mine cost/tonne milled	R/tonne	1,065	979
Cash operating cost/PGM oz produced	R/PGM oz	9,663	8,878
Cash operating cost/Pt oz produced	R/Pt oz	20,379	18,696
AISC produced		16	457
AISC sold		(77)	495
MINERAL RESOURCES INCLUSIVE OF ORE RESERVES			
UG2 Reef		33.9 Mt ⇔ 3.4 (4E) Moz	
JV PARTNER			
SIBANYE-STILLWATER			50%
* Includes Siphumelele 3 shaft (100% owned) Mineral Resources of 26.2 Mt ⇔ 2.6 (4E) Moz			

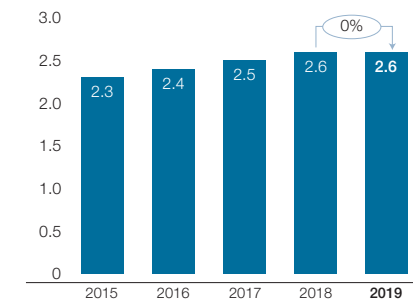
MINING AND CONCENTRATING

(PGM ounces 000)



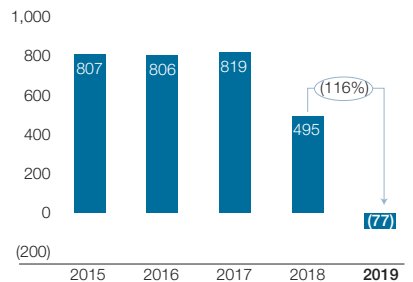
CONCENTRATING

Tonnes milled (million)



VALUE ENHANCING

(AISC USD/Pt oz)



OPERATIONS OVERVIEW CONTINUED

JOINT VENTURES AND ASSOCIATES ON CARE AND MAINTENANCE

Marikana Platinum Mine

Marikana is a 50:50 pooling-and-sharing agreement between Sibanye-Stillwater and Rustenburg Platinum Mines, managed by Sibanye-Stillwater. It is in North West province, 12km outside the town of Rustenburg. It forms part of the South-western Limb of the Bushveld complex and operates under a mining right of 33km². Mine infrastructure, comprising four decline shafts and a concentrator, was placed on care and maintenance in 2012 on depleted mineable ore reserves, high operating costs and a decreasing commodity price. The open pit was mined out and closed in 2011.

MARIKANA PLATINUM MINE (NON-MANAGED – 50% OWNED)

2019

2018

MINERAL RESOURCES INCLUSIVE OF ORE RESERVES

UG2 Reef **20.9 Mt ⇔ 2.2 (4E) Moz**

JV PARTNER

SIBANYE-STILLWATER 50%

Bokoni Platinum Mine

Bokoni is a 51:49 JV between Atlatsa and Rustenburg Platinum Mines. The mine is in Limpopo, 80km south-east of the town of Polokwane. It forms part of the North-eastern Limb of the Bushveld complex and operates under a mining right covering 147km². Current mining infrastructure, comprising two decline shafts (Middelpunt Hill and Brakfontein) and two concentrators, was placed on care and maintenance in 2017. The older Vertical and UM2 shafts were closed in 2015. The opencast operation was terminated in December 2016 and rehabilitation began in January 2017.

BOKONI PLATINUM MINE (NON-MANAGED – 49% OWNED)

2019

2018

MINERAL RESOURCES INCLUSIVE OF ORE RESERVES

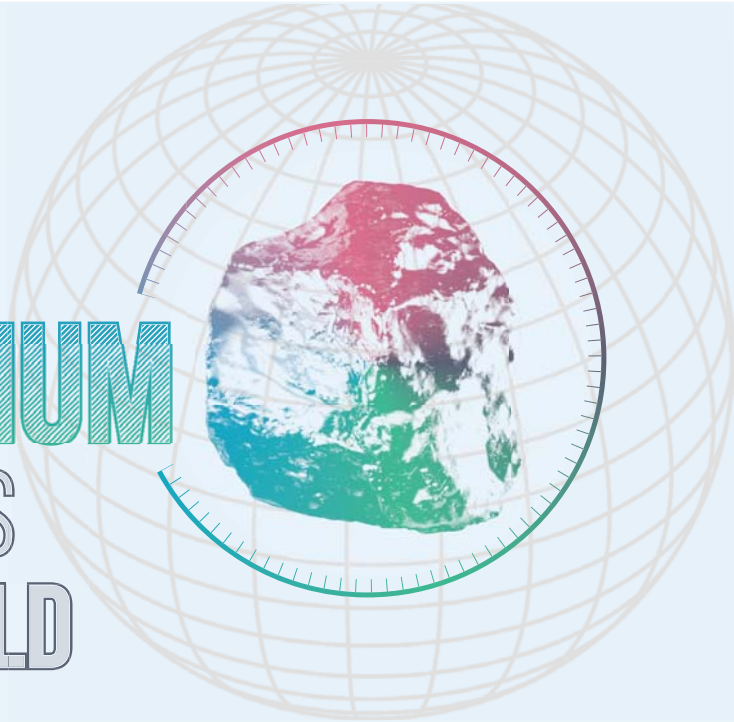
Merensky Reef **169.7 Mt ⇔ 27.0 (4E) Moz**

UG2 Reef **228.1 Mt ⇔ 48.1 (4E) Moz**

JV PARTNER

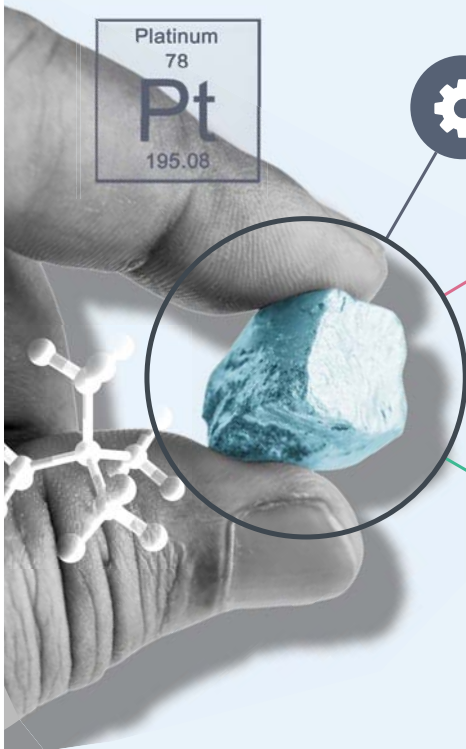
ATLATSA RESOURCES 51%

HOW PLATINUM IMPROVES OUR WORLD



Platinum is a critical metal for the health and wealth of the world.

PLATINUM'S INDUSTRIAL APPLICATIONS



MANUFACTURING - from fertiliser, fibre glass and lightbulbs to airbags and sticky notes



HEALTHCARE - medical devices and cancer treatments



ENVIRONMENTAL - harnessing renewable energy and reducing vehicle emissions



RENEWABLE POWER - fuel cell electric vehicles

Source: WPIC, Visual Capital