

# DELIVERING VALUE FROM OUR OPERATIONS AND PROJECTS



## HOW WE DID IN 2019

### SUCCESSES

Solid operational recovery in H2 2019 following strike and other operational disruptions in H1 2019

Successful integration and restructuring at the Marikana operation – R1.2 billion of annualised synergies by end 2020 (64% higher than forecast)

Continued improvement in Group safe production including zero fatalities at SA gold operations (+11 million fatality free shifts)

### CHALLENGES

Ground conditions and diesel particulate matter issues encountered at Blitz at the US PGM operations during the year

Building up at the SA gold operations after a five-month strike, although it was successful



■ East Boulder mine tailings at the US PGM operations

## DELIVERING VALUE FROM OUR OPERATIONS AND PROJECTS CONTINUED

# LOCATION OF OUR OPERATIONS

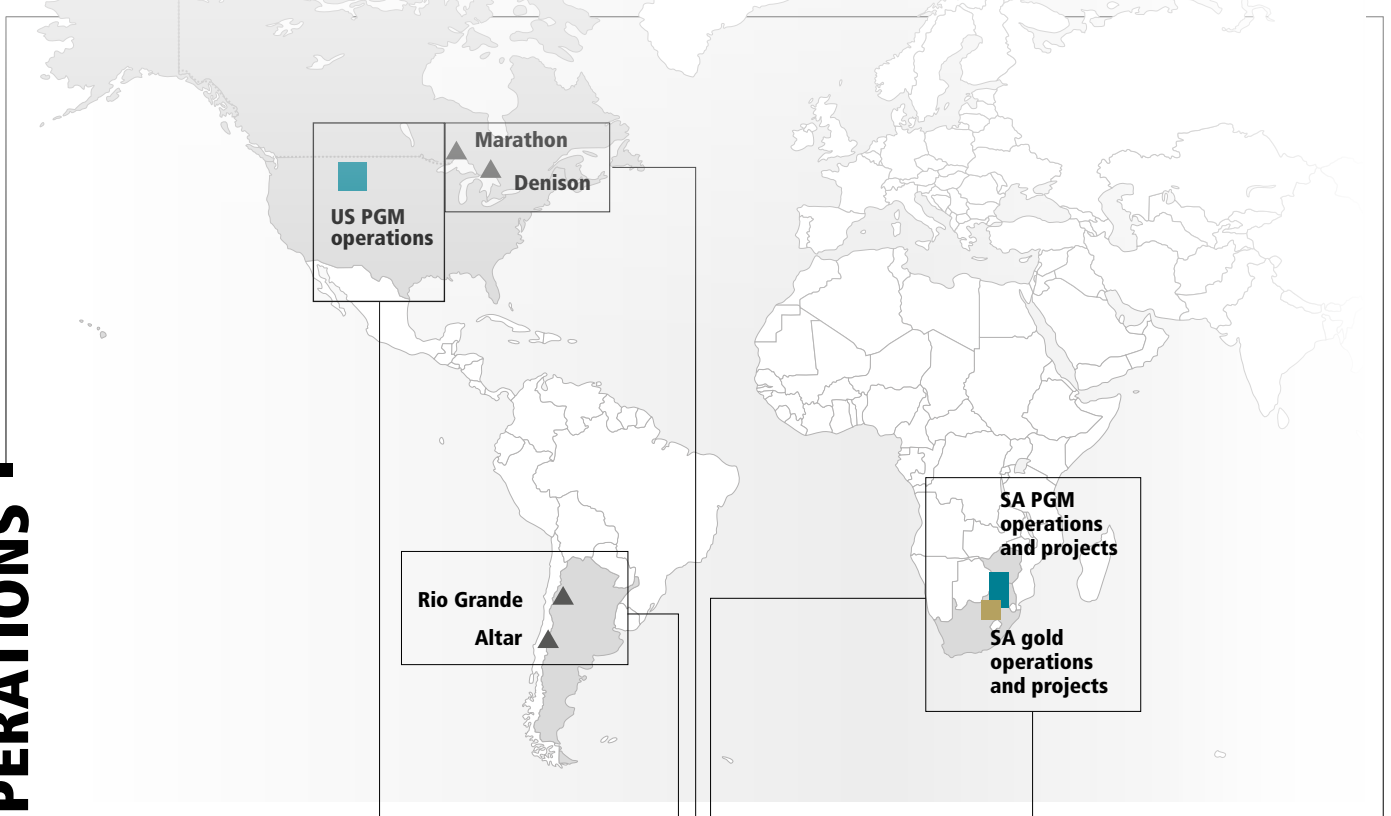
SETTING THE SCENE

WHAT DRIVES US

LEADERSHIP

DELIVERING ON OUR STRATEGY AND OUTLOOK

ANCILLARY INFORMATION



### US PGM OPERATIONS

Our mining operations, in Montana in the US, are:

- East Boulder (100%, managed)
- Stillwater (including Blitz) (100%, managed)
- The Columbus Metallurgical Complex (100%, managed)

### PROJECTS

#### In the Americas:

- Marathon PGM-copper project in Ontario, Canada (55.58%, non-managed)
- Altar and Rio Grande copper-gold projects in north-west Argentina (100%, non-managed)
- Denison PGM project in Ontario, Canada (80%, non-managed)

#### In South Africa:

##### PGM

- Hoedspruit (74%), Zondernaam (74%) and three exploration-stage PGM properties – Akanani (93.13%), Limpopo (45.3%-95.25%) – acquired as part of the Lonmin transaction, all in Limpopo province (managed) and Blue Ridge (50%, managed)

##### GOLD

- Burnstone (100%, managed)
- Southern Free State (SOFs) (100%, managed)

### SA PGM OPERATIONS

In South Africa, on the western limb of the Bushveld Complex, our mining operations are:

- Kroondal (attributable 50% interest in PSA agreement, managed)
- Rustenburg (100%, managed)
- Marikana (acquired June 2019, 95.25%, managed)
- Platinum Mile (91.7%), a retreatment facility that processes tailings to recover residual PGMs

Processing facilities include concentrators and, following the Lonmin acquisition, a smelter complex together with base and precious metals refineries.

In Zimbabwe, on the Wezda Complex, on the southern portion of the Great Dyke:

- Mimosa (50%), with the remaining 50% held by Impala Platinum Holdings Limited (Implats)

### SA GOLD OPERATIONS

Our mining operations situated on the West Rand of the Witwatersrand Basin, are:

- Driefontein (100%, managed)
- Kloof (100%, managed)
- Cooke (100%, managed)

And in the southern Free State goldfields:

- Beatrix (100% managed)
- Attributable interest in DRDGOLD (38.05% non-managed)

Post year-end, Sibanye-Stillwater increased its interest to 50.1% in DRDGOLD, a leader in the retreatment of gold tailings.

## OVERVIEW OF THE OPERATIONAL PERFORMANCE FOR THE YEAR

### US PGM OPERATIONS

The US PGM operations reported 2E PGM production of 593,974oz which was in line with revised 2019 annual guidance. The operational issues which affected the East Boulder mine and Stillwater West mine during 2019 were successfully addressed during the remaining months in 2019, with both operations achieving normalised production run rates by year-end. Challenging ground conditions were encountered at Blitz during H2 2019, with fall of ground (FOG) conditions leading to orders from the US Mine Safety and Health Administration (MSHA) to suspend mining activities in specific areas, thereby restricting stope access and negatively impacting productivity. The adoption of special ground control measures temporarily impaired advance rates and resulted in reduced stope flexibility. Significant progress has been made on redesigning appropriate support in these areas. Concentrated development activities on the ramp system in the Blitz project area also resulted in increased diesel particulate matter (DPM) emissions beyond the capabilities of installed ventilation in certain development areas, which further impacted output.

While the ground control and DPM challenges have largely been addressed, production and advance rates remain behind plan, delaying the planned production build-up at Blitz by approximately eight months. With the ramp up commencing in Q4 2020, the Fill the Mill (FTM) project remains on track to deliver 40,000 2Eoz per annum. At spot prices, the project is expected to yield an NPV in excess of US\$400million.

The 53% increase in the palladium price during 2019 to US\$1,916/2Eoz, drove a 38% increase in the average 2E PGM basket price for 2019 to US\$1,403/2Eoz (palladium comprises 78% of the 2E basket price, with platinum comprising 22%). As a result, adjusted EBITDA from the US PGM operations increased by 61% year-on-year to US\$504 million. The 2E PGM basket price has risen a further 24% during 2020 to over US\$2,100/2Eoz, which combined with the forecast increase in 2E PGM production to between 660,000 2Eoz and 700,000 2Eoz, suggests significantly stronger financial delivery for 2020.

### SA PGM OPERATIONS

The consistent operational delivery from the SA PGM operations continued in 2019, despite the integration and restructuring of the Marikana operation, the PGM wage negotiations, and the impact of load shedding towards the end of the year. 4E PGM production of 1,608,332 4Eoz (including the Marikana operation for seven months since acquisition), was 37% higher year-on-year, with 4E PGM production (excluding the Marikana operation) of 1,100,734 4Eoz above the upper end of annual guidance.

Following a detailed three-month review of the Marikana operation, a proposed restructuring to create an operating footprint with a more sustainable cost structure, was announced in September 2019. Mandatory consultations with affected

stakeholders in terms of Section 189A (S189) of the Labour Relations Act, 66 of 1995 (LRA) were successfully concluded in early December 2019, with the consequent restructuring effected by early January 2020 without any related operational disruption. Approximately 3,195 jobs were retained as a result of the operational review and S189 consultations, with 1,924 employees exiting (normal attrition) during the period. Three generation 1 shafts (East 1, West 1 and Hossy) have reached the end of their reserve lives, resulting in the necessary retrenchment of 1,142 employees and a 1,709 reduction in contractors.

While integration of the service functions is ongoing into 2020, the initial estimate of R730 million in annual synergies is already proving to be conservative. Synergies achieved to date imply an annualised run rate of R1,200 million by the end of 2020, which is 64% higher than our initial estimates.

### SA GOLD OPERATIONS

The SA gold operations produced 29,009kg (932,659oz) (including DRDGOLD) for 2019 and 23,427kg (753,194oz) (excluding DRDGOLD) for 2019. Normalised production run rates for the reduced operating footprint at the SA gold operations were achieved during Q4 2019, following the conclusion of the AMCU strike in April 2019 and a steady production build-up.

The safe production build-up at the West Rand operations, was hampered by heightened levels of seismicity, as ground stresses which accumulated during the five-month strike were released, significantly affecting several high grade areas at the Kloof operation in particular. Nonetheless, the operating and financial performance for H2 2019 was significantly better than H1 2019, with production increasing by 71% to 18,268kg (587,908oz) and AISC declining by 27% to R636,405/kg (US\$1,347/oz).

DRDGOLD performed strongly during 2019, benefitting from higher volumes of high-grade surface material from the Driefontein surface facilities, to produce 5,582kg (179,465oz) of gold at an AISC of R514,932/kg (US\$1,108/oz) yielding adjusted EBITDA of R854 million (US\$59 million) for 2019.

### US PGM operations: production and recycling (ounces)

Mined 2E production	2019	2018
Stillwater	376,395	364,167
East Boulder	217,579	228,441
<b>Total mined</b>	<b>593,974</b>	<b>592,608</b>
<b>Recycling 3E<sup>1</sup> at Columbus Metallurgical Complex</b>		
PGM fed	853,130	686,592
PGM sold	750,087	540,546
PGM tolled returned	126,758	144,172

<sup>1</sup> Recycling production includes rhodium

# DELIVERING VALUE FROM OUR OPERATIONS AND PROJECTS CONTINUED

## SA and US PGM operations (2019)

		Total PGM operations	SA PGM operations					US PGM operations	
			Total	Marikana	Kroondal	Mimosa	Platinum Mile	Rustenburg	Stillwater
<b>Production (attributable)<sup>1</sup></b>									
<b>Ore milled</b>	000t	<b>33,035</b>	31,624	6,793	4,060	1,357	8,035	11,379	1,411
Underground	000t	<b>18,540</b>	17,129	4,717	4,060	1,357	0	6,995	1,411
Surface	000t	<b>14,495</b>	14,495	2,076	0	0	8,035	4,384	0
<b>Plant head grade</b>	g/t	<b>2.70</b>	2.18	2.78	2.46	3.58	0.73	2.59	14.29
Underground	g/t	<b>4.12</b>	3.28	3.61	2.46	3.58	0	3.48	14.29
Surface	g/t	<b>0.89</b>	0.89	0.91	0	0	0.73	1.16	0
<b>Plant recoveries</b>	%	<b>76.78</b>	72.44	80.06	82.53	75.26	10.89	73.74	91.61
Underground	%	<b>85.22</b>	82.93	85.43	82.53	75.26	0	82.82	91.61
Surface	%	<b>26.52</b>	26.52	31.65	0	0	10.89	30.27	0
<b>Yield</b>	g/t	<b>2.07</b>	1.58	2.23	2.03	2.69	0.08	1.91	13.09
Underground	g/t	<b>3.51</b>	2.72	3.08	2.03	2.69	0	2.88	13.09
Surface	g/t	<b>0.23</b>	0.23	0.29	0	0	0.08	0.35	0
<b>PGM production (4E/2E)</b>	000oz	<b>2,202</b>	1,608	508	265	118	21	698	594
Underground	000oz	<b>2,093</b>	1,499	468	265	118	0	648	594
Surface	000oz	<b>109</b>	109	39	0	0	21	49	0
<b>PGM sales (4E/2E)</b>	000oz	<b>1,884</b>	1,305	472	265	118	21	431	578
<b>Price and costs<sup>2</sup></b>									
Average PGM basket price received <sup>3</sup>	R/oz	<b>20,090</b>	19,994	20,601	20,253	18,640	17,583	19,305	20,287
	US\$/oz	<b>1,389</b>	1,383	1,425	1,401	1,289	1,216	1,335	1,403
Adjusted EBITDA margin <sup>4</sup>	%	<b>30</b>	32	22	43	43	21	37	55
All-in sustaining cost <sup>5</sup>	R/oz	<b>13,854</b>	14,857	17,735	10,771	12,058	11,006	14,429	11,337
	US\$/oz	<b>958</b>	1,027	1,226	745	834	761	998	784
All-in cost <sup>5</sup>	R/oz	<b>14,843</b>	14,875	17,756	10,771	12,058	11,658	14,432	14,763
	US\$/oz	<b>1,026</b>	1,029	1,228	745	834	806	998	1,021
<b>Capital expenditure<sup>2</sup></b>									
Ore reserve development	Rm	<b>2,065</b>	1,029	529	0	0	0	501	1,036
Sustaining capital	Rm	<b>1,525</b>	1,203	660	213	343	13	316	322
Growth projects	Rm	<b>2,050</b>	15	0	0	0	13	2	2,035
<b>Total</b>	Rm	<b>5,641</b>	<b>2,248</b>	<b>1,189</b>	<b>213</b>	<b>343</b>	<b>27</b>	<b>819</b>	<b>3,393</b>
	US\$m	<b>390</b>	<b>155</b>	<b>82</b>	<b>15</b>	<b>24</b>	<b>2</b>	<b>57</b>	<b>235</b>

Average exchange rate in 2019 was R14.46/US\$

Figures may not tally as they are rounded independently

The US PGM operations' underground production is converted to metric tonnes and kilograms, and performance is translated into South African rand. In addition to the US PGM operations' underground production, recycled material is treated, which is excluded from the statistics

<sup>1</sup> Kroondal and Mimosa represent 50% attributable production while Platinum Mile is 91.7% owned and 100% incorporated

<sup>2</sup> The Group and total SA PGM operations' unit cost benchmarks and capital expenditure exclude the financial results of Mimosa, which is equity accounted, and excluded from revenue and cost of sales

<sup>3</sup> The average PGM basket price is the PGM revenue per 4E/2E ounce prior to a purchase-of-concentrate adjustment

<sup>4</sup> Adjusted EBITDA margin is calculated by dividing adjusted EBITDA by revenue

<sup>5</sup> All-in cost excludes income tax, costs associated with merger and acquisition activities, working capital, impairments, financing costs, one-time severance charges and items needed to normalise earnings. All-in cost is made up of all-in sustaining cost, as the cost to sustain current operations and presented as a sub-total in the all-in cost calculation, together with corporate and major capital expenditure associated with growth. All-in sustaining cost per ounce (and kilogram) and all-in cost per ounce (and kilogram) are calculated by dividing the all-in sustaining cost and all-in cost respectively, in a period, by the total 4E/2E PGM production in the same period

## SA and US PGM operations (2018)

		Total PGM operations	SA PGM operations					US PGM operations
			Total	Kroondal	Mimosa	Platinum Mile	Rustenburg	Stillwater
<b>Production (attributable)<sup>1</sup></b>								
<b>Ore milled</b>	000t	<b>27,180</b>	25,841	3,865	1,402	7,712	12,862	1,339
Underground	000t	<b>13,720</b>	12,381	3,865	1,402	0	7,114	1,339
Surface	000t	<b>13,460</b>	13,460	0	0	7,712	5,748	0
<b>Plant head grade</b>	g/t	<b>2.65</b>	2.01	2.48	3.56	0.63	2.52	15.01
Underground	g/t	<b>4.40</b>	3.25	2.48	3.56	0	3.60	15.01
Surface	g/t	<b>0.87</b>	0.87	0	0	0.63	1.19	0
<b>Plant recoveries</b>	%	<b>76.34</b>	70.40	82.65	77.59	11.19	74.59	91.29
Underground	%	<b>86.24</b>	83.60	82.65	77.59	0	85.13	91.29
Surface	%	<b>25.23</b>	25.23	0	0	11.19	35.22	0
<b>Yield</b>	g/t	<b>2.02</b>	1.42	2.05	2.76	0.07	1.88	13.77
Underground	g/t	<b>3.79</b>	2.71	2.05	2.76	0	3.06	13.77
Surface	g/t	<b>0.22</b>	0.22	0	0	0.07	0.42	0
<b>PGM production (4E/2E)</b>	000oz	<b>1,768</b>	1,176	255	125	18	778	593
Underground	000oz	<b>1,673</b>	1,080	255	125	0	701	593
Surface	000oz	<b>95</b>	95	0	0	18	78	0
<b>PGM sales (4E/2E)</b>	000oz	<b>1,770</b>	1,176	255	125	18	778	594
<b>Price and costs<sup>2</sup></b>								
Average PGM basket price received <sup>3</sup>	R/oz	<b>13,657</b>	13,838	14,203	13,525	13,618	13,723	13,337
	US\$/oz	<b>1,031</b>	1,045	1,072	1,021	1,028	1,036	1,007
Adjusted EBITDA margin <sup>4</sup>	%	<b>23</b>	19	22	33	22	18	46
All-in sustaining cost <sup>5</sup>	R/oz	<b>9,904</b>	10,417	9,849	9,069	8,676	10,642	8,994
	US\$/oz	<b>748</b>	787	744	685	655	804	677
All-in cost <sup>5</sup>	R/oz	<b>10,897</b>	10,472	9,849	9,069	11,924	10,643	11,651
	US\$/oz	<b>823</b>	791	744	685	900	804	880
<b>Capital expenditure<sup>2</sup></b>								
Ore reserve development	Rm	<b>1,477</b>	478	0	0	0	478	999
Sustaining capital	Rm	<b>725</b>	464	141	171	10	314	260
Growth projects <sup>6</sup>	Rm	<b>1,632</b>	58	0	0	57	1	1,574
<b>Total</b>	Rm	<b>3,833</b>	<b>1,000</b>	<b>141</b>	<b>171</b>	<b>67</b>	<b>792</b>	<b>2,833</b>
	US\$m	<b>290</b>	<b>76</b>	<b>11</b>	<b>13</b>	<b>5</b>	<b>60</b>	<b>214</b>

Average exchange rate in 2018 was R13.24/US\$

Figures may not tally as they are rounded independently

The US PGM operations' underground production is converted to metric tonnes and kilograms, and performance is translated into South African rand. In addition to the US PGM operations' underground production, recycled material is treated, which is excluded from the statistics

<sup>1</sup> Kroondal and Mimosa represent 50% attributable production while Platinum Mile is 91.7% owned and 100% incorporated

<sup>2</sup> The Group and total SA PGM operations' unit cost benchmarks and capital expenditure excludes the financial results of Mimosa, which is equity accounted, and excluded from revenue and cost of sales

<sup>3</sup> The average PGM basket price is the PGM revenue per 4E/2E ounce prior to a purchase-of-concentrate adjustment

<sup>4</sup> Adjusted EBITDA margin is calculated by dividing adjusted EBITDA by revenue

<sup>5</sup> All-in cost excludes income tax, costs associated with merger and acquisition activities, working capital, impairments, financing costs, one-time severance charges and items needed to normalise earnings. All-in cost is made up of all-in sustaining cost, as the cost to sustain current operations and presented as a sub-total in the all-in cost calculation, together with corporate and major capital expenditure associated with growth. All-in sustaining cost per ounce (and kilogram) and all-in cost per ounce (and kilogram) are calculated by dividing the all-in sustaining cost and all-in cost respectively, in a period, by the total 4E/2E PGM production in the same period

<sup>6</sup> The US PGM operations' growth project expenditure for 2018 include corporate project expenditure to the value of R71 million (US\$5 million) – the majority of which related to the Altar and Marathon projects

## DELIVERING VALUE FROM OUR OPERATIONS AND PROJECTS CONTINUED

### SA gold operations (2019)

	Unit	Total	Driefontein	Kloof	Beatrix	Cooke	DRDGOLD
<b>Production</b>							
<b>Ore milled</b>	000t	41,498	906	7,357	2,489	4,328	26,418
Underground	000t	4,084	898	1,489	1,622	75	0
Surface	000t	37,414	8	5,868	867	4,253	26,418
<b>Yield</b>	g/t	0.70	5.69	1.48	2.46	0.30	0.21
Underground	g/t	4.85	5.74	5.96	3.54	0.43	0
Surface	g/t	0.25	0.38	0.34	0.43	0.30	0.21
<b>Gold production</b>	kg	29,009	5,155	10,863	6,118	1,291	5,582
	000oz	933	166	349	197	42	179
Underground	kg	19,801	5,152	8,872	5,745	32	0
	000oz	637	166	285	185	1	0
Surface	kg	9,208	3	1,991	373	1,259	5,582
	000oz	296	0	64	12	40	179
<b>Gold sales</b>	kg	28,743	5,096	10,829	5,978	1,288	5,552
	000oz	924	164	348	192	41	179
<b>Price and costs</b>							
Gold price received	R/kg	648,662	648,175	628,728	635,430	643,168	652,197
	US\$/oz	1,395	1,394	1,352	1,367	1,383	1,403
Adjusted EBITDA margin <sup>1</sup>	%	(5)	(40)	(3)	(1)	(43)	24
All-in sustaining cost <sup>2</sup>	R/kg	717,966	1,016,228	722,698	685,346	520,497	514,932
	US\$/oz	1,544	2,186	1,555	1,474	1,120	1,108
All-in cost <sup>2</sup>	R/kg	735,842	1,016,228	732,755	685,698	520,497	521,956
	US\$/oz	1,583	2,186	1,576	1,475	1,120	1,123
<b>Capital expenditure</b>							
Ore reserve development	Rm	1,337	513	590	233	0	0
Sustaining capital	Rm	514	163	238	71	0	43
Growth projects <sup>3</sup>	Rm	215	0	109	2	0	39
<b>Total</b>	Rm	2,066	676	937	306	0	82
	US\$m	143	47	65	21	0	6

Average exchange rate in 2019 was R14.46/US\$

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<sup>1</sup> Adjusted EBITDA margin is calculated by dividing adjusted EBITDA by revenue

<sup>2</sup> All-in cost excludes income tax, costs associated with merger and acquisition activities, working capital, impairments, financing costs, one-time severance charges and items needed to normalise earnings. All-in cost is made up of all-in sustaining cost, as the cost to sustain current operations and presented as a sub-total in the all-in cost calculation, together with corporate and major capital expenditure associated with growth. All-in sustaining cost per kilogram (and ounce) and all-in cost per kilogram (and ounce) are calculated by dividing the all-in sustaining cost and all-in cost, respectively, in a period by the total gold sold in the same period

<sup>3</sup> Growth project expenditure for 2019 include corporate project expenditure to the value of R65 million (US\$5 million) – the majority of which was related to the Burnstone project

## SA gold operations (2018)

	Unit	Total	Driefontein	Kloof	Beatrix	Cooke	DRDGOLD
<b>Production</b>							
<b>Ore milled</b>	000t	27,199	3,143	7,108	2,952	4,092	9,904
Underground	000t	5,811	1,634	1,821	2,282	74	0
Surface	000t	21,388	1,509	5,287	670	4,018	9,904
<b>Yield</b>	g/t	1.35	3.05	2.13	2.89	0.33	0.19
Underground	g/t	5.21	5.48	7.11	3.63	1.08	0
Surface	g/t	0.30	0.41	0.44	0.37	0.33	0.19
<b>Gold production</b>	kg	36,600	9,573	15,253	8,536	1,394	1,844
	000oz	1,177	308	490	275	45	59
Underground	kg	30,263	8,952	12,940	8,291	80	0
	000oz	973	288	416	267	3	0
Surface	kg	6,337	621	2,313	245	1,314	1,844
	000oz	204	20	72	8	42	59
<b>Gold sales</b>	kg	36,489	9,573	15,164	8,536	1,346	1,870
	000oz	1,173	308	488	275	43	60
<b>Price and costs</b>							
Gold price received	R/kg	535,929	533,918	536,250	539,046	550,223	560,160
	US\$/oz	1,259	1,254	1,259	1,266	1,292	1,316
Adjusted EBITDA margin <sup>1</sup>	%	7	(13)	21	14	(50)	3
All-in sustaining cost <sup>2</sup>	R/kg	557,530	707,375	489,587	521,884	476,003	569,893
	US\$/oz	1,309	1,661	1,150	1,226	1,118	1,338
All-in cost <sup>2</sup>	R/kg	583,409	707,417	498,938	522,083	476,003	732,086
	US\$/oz	1,370	1,661	1,172	1,226	1,118	1,719
<b>Capital expenditure</b>							
Ore reserve development	Rm	2,054	817	840	397	0	0
Sustaining capital	Rm	546	228	221	83	0	15
Growth projects <sup>3</sup>	Rm	648	1	142	2	0	303
<b>Total</b>	Rm	3,248	1,046	1,202	481	0	318
	US\$m	245	79	91	36	0	24

Average exchange rate in 2018 was R13.24/US\$

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<sup>1</sup> Adjusted EBITDA margin is calculated by dividing adjusted EBITDA by revenue

<sup>2</sup> All-in cost excludes income tax, costs associated with merger and acquisition activities, working capital, impairments, financing costs, one-time severance charges and items needed to normalise earnings. All-in cost is made up of all-in sustaining cost, as the cost to sustain current operations and presented as a sub-total in the all-in cost calculation, together with corporate and major capital expenditure associated with growth. All-in sustaining cost per kilogram (and ounce) and all-in cost per kilogram (and ounce) are calculated by dividing the all-in sustaining cost and all-in cost, respectively, in a period by the total gold sold in the same period

<sup>3</sup> Growth project expenditure for 2018 include corporate project expenditure to the value of R201 million (US\$15 million) – the majority of which was related to the Burnstone project

## DELIVERING VALUE FROM OUR OPERATIONS AND PROJECTS CONTINUED

### FUTURE FOCUS – 2020 OPERATIONAL OUTLOOK

The production guidance for the Group, provided to the market on 19 February 2020 (available at <https://www.sibanyestillwater.com/news-investors/reports/quarterly/>), is expected to be adversely affected by the impact of the COVID-19 pandemic on our SA and US operations.

The SA underground mines were temporarily halted for an initial 21 days from 27 March 2020 when the SA government instated a lockdown to slow down the spread of the pandemic. This period was then extended to the end of April 2020. Approval was subsequently received from the DMRE for limited mining and processing activities to resume from 14 April 2020, subject to agreed protocols being implemented to reduce COVID-19 related health and safety risks..

At the US PGM operations, we have significantly reduced the number of people at our sites in order to proactively manage the COVID-19 threat in line with the requirements from local health authorities, while maintaining production from current operations.

Specific actions for the US operations include:

- demobilising contractors involved in growth capital activities
- facilitating remote work for personnel that are not required on site
- prohibiting face-to-face contact with external parties and restricting site access to employees

The Blitz project accounts for the majority of contract workers at the US PGM operations and these decisions are likely to temporarily impact growth from Blitz in 2020 and delay the project's development schedule. In addition, we have received a force majeure notice from the manufacturer of the mills to be used in the expansion of the concentrator. Further detail will be provided once we have concluded a full impact assessment.

Our US PGM operations are a 'critical infrastructure industry' as defined by the Cybersecurity and Infrastructure Agency,

with PGMs essential components of many chemical, medical and biochemical applications. This includes the use of PGMs in many drugs used to treat a wide range of cancers, pacemaker electrodes, catheters, guides for arthroscopic surgery and in self-rescuer masks used by first responders. Platinum is also an essential catalyst in petrochemical plants necessary for energy production. As the only primary PGM producer in the US, we will endeavour to maintain current production from our Stillwater and East Boulder mines, while maintaining throughput through our Columbus Metallurgical Complex in order to provide PGMs to the critical sectors mentioned above. Aside from the Blitz project activities, our other operations are largely unaffected by the aforementioned decisions.

### SUMMARY OF PROJECTS

#### Projects in the Americas

During 2019 the Group advanced its strategy of entering into strategic relationships with focused exploration companies in order to advance these assets.

#### Altar

The Altar project, located within San Juan province, Argentina, is an advanced stage porphyry copper-gold exploration project.

Aldebaran Resources Inc (Aldebaran), a subsidiary of Regulus Resources Ltd, has entered into a JV and option agreement with Stillwater Canada LLC, an indirect subsidiary of Sibanye-Stillwater, to acquire up to an 80% interest in Peregrine Metals Ltd (Peregrine), a wholly-owned subsidiary of Sibanye-Stillwater, which owns the Altar copper-gold project. Sibanye-Stillwater also retains an indirect exposure to all Aldebaran assets (including the Rio Grande project) through its 19.9% shareholding in Aldebaran. Aldebaran is the operator of the JV. As at 31 December 2019, no earn-in on Altar had been effected and 100% of the Mineral Resource is reported.



■ Aerial view of the Precious Metals Refinery in SA



## Rio Grande

The Rio Grande project (owned and managed by Aldebaran) is a copper-gold porphyry deposit with an associated iron oxide copper-gold (IOCG) style alteration, exploration stage project located in north-western Argentina. The Mineral Resources of the Rio Grande deposit are reported on an attributable basis based on the Group's 19.9% shareholding in Aldebaran.

## Marathon

The Marathon project is a PGM-gold-copper project, situated 10km north of Marathon, Ontario province, Canada.

During 2019, Sibanye-Stillwater concluded an acquisition agreement with Generation Mining Limited (Gen Mining) through which Gen Mining acquired a 51% interest in the Marathon project and formed an unincorporated JV with Stillwater Canada Inc, in exchange for a cash consideration of 3.0 million Canadian dollars (CAD\$) and a 12.9% equity interest in Gen Mining. Gen Mining has the option to earn up to an 80% interest through spending of CAD\$10 million and preparing a preliminary economic assessment within four years of the property acquisition date, marked as 11 July 2019.

Gen Mining is the operator of the JV and has assumed all liabilities of the property. For more information, please refer to the official media release at [https://thevault.exchange/?get\\_group\\_doc=245/1561530392-sibanyegeneration-mining-agreement-marathon-project-26june2019.pdf](https://thevault.exchange/?get_group_doc=245/1561530392-sibanyegeneration-mining-agreement-marathon-project-26june2019.pdf)

## Denison

The Denison project was acquired as part of the Lonmin transaction and forms part of the South African PGM segment. It is reported under the US PGM segment due to its geographical location. The Denison project is a PGM exploration project on the Sudbury Igneous Complex (SC), approximately 30km to the west-southwest of the town of Sudbury and includes two zones adjacent to the old workings of the Crean Hill mine (the 109FW and 9400 zones).



Geologists measuring the PGM stope face



Gold pour at the SA gold Kloof plant

## DELIVERING VALUE FROM OUR OPERATIONS AND PROJECTS CONTINUED

During 2019, Sibanye-Stillwater acquired the entire shareholding in Lonmin and thereby by implication acquired the Denison project, which was 100% held by Loncan, a subsidiary of Lonmin. During 2019, Loncan entered into a binding letter agreement with Wallbridge Mining whereby Loncan appointed Wallbridge as the operator of the revised Denison property to raise the necessary funding, implement the business plan and manage the daily operations of Loncan. At the end of October 2019, Loncan issued Wallbridge with 20% of Loncan (current shareholding: Sibanye-Stillwater 80% and Wallbridge 20%). For more information, please refer to the official media release at [https://www.wallbridgeminig.com/press-releases.asp?ReportID=860246&\\_Type=Press-Releases&\\_Title=Wallbridge-earns-20-Ownership-of-Lonmin-Canada-Inc-Through-Operatorship-Agr](https://www.wallbridgeminig.com/press-releases.asp?ReportID=860246&_Type=Press-Releases&_Title=Wallbridge-earns-20-Ownership-of-Lonmin-Canada-Inc-Through-Operatorship-Agr)

### SA PGM projects\*

The SA PGM operations are supported by a pipeline of five projects, which are at varying stages of development. The projects – Blue Ridge, Zondernaam, Hoedspruit, Akanani and Limpopo – are all located on the BIC in South Africa and present significant optionality to sustain and/or enhance the current production profile. During the year, the Group refined its portfolio by exiting from certain low potential projects (Loskop and Vygenhoek), while advancing studies into Blue Ridge, Akanani, Hoedspruit and Limpopo.

### Blue Ridge

This 50:50 JV with Imbani Platinum is situated approximately 30km southeast of Groblersdal on the Eastern Limb of the BIC. Sibanye-Stillwater owns a 50% stake in the JV following its acquisition of Aquarius in 2016. The mine, constructed in 2007, was placed on care and maintenance in 2011 on the back of depressed PGM prices, and has remained on care and maintenance ever since.

\* Greenfields projects which exclude projects such as K4 at the Marikana operation

### Akanani

Akanani is an advanced stage exploration project located on the Northern Limb of the BIC, in the Limpopo province of South Africa, targeting the Platreef orebody. The project was acquired by Sibanye-Stillwater in 2019 as part of the Lonmin transaction. Sibanye-Stillwater has an effective 93.13% effective interest in Akanani Mining (Pty) Ltd, via its shareholding in Western Platinum Ltd.

### Hoedspruit

Hoedspruit Platinum Exploration is a prospecting right in the Rustenburg area, situated directly adjacent to the Rustenburg operation's mining right, earmarked for inclusion into the Rustenburg mining right. The application process is in progress. Sibanye-Stillwater has an effective 74% interest, while 26% is held by Watervale (Pty) Ltd, an empowerment company controlled by Savannah Resources (Pty) Ltd.

### Limpopo

The Limpopo project is located on the northern sector of the Eastern Limb of the BIC in the Limpopo province. The larger project area consists of three contiguous mineral titles areas, namely Voorspoed, Dwaalkop and Doornvlei. It is centred on the Baobab mining operation (located on the Voorspoed mining right), which is currently under care and maintenance.

Sibanye-Stillwater has an effective 95.25% interest in the C&M Baobab mine and the Doornvlei mining right. A total of 45.25% of the Dwaalkop prospecting right is held by Mvelephanda Resources (a wholly owned subsidiary of Northam Platinum Ltd).



■ The UG2 concentrator plant at the SA PGM operations

### Zondernaam

The Zondernaam project, a JV between Sibanye-Stillwater (74%) and Bakgaga Mining (26%), is an early stage exploration project situated along the northern part of the Eastern Limb of the BIC, with limited drilling to date.

### SA gold projects\*

#### Burnstone

Burnstone is a shallow gold mine project in execution, situated near Balfour in the Mpumalanga province, South Africa, about 80km south-east of Johannesburg. Burnstone is located in the Highveld escarpment and is mostly surrounded by farms, game farms and bushveld.

Sibanye-Stillwater acquired Burnstone in 2014. The feasibility study (FS) was independently reviewed in 2015, finance was approved in 2016 and development started in 2017. Development was stopped in May 2018 due to economics at the time, and the focus was on establishing underground engineering infrastructure in preparation for mining production in 2021.

\* These are greenfields projects which exclude the Kloof deepening project

### Southern Orange Free State (SOFS) projects

The SOFS Bloemhoek and De Bron Merriespruit projects are situated close to Virginia in the Free State province of South Africa adjacent and contiguous to the Beatrix operation. SOFS is situated in a semi-arid region with very flat topography covered in agricultural land. No severe climatic occurrences that can influence mining activities are present.

In 2014, Sibanye-Stillwater acquired 100% of Wits Gold. SOFS formed part of this acquisition. The SOFS De Bron Merriespruit project was at feasibility study level and an application for the SOFS mining right was already submitted to the DMRE when Sibanye-Stillwater integrated Wits Gold into the Group. A feasibility study for the SOFS Bloemhoek project was finalised in 2019. In 2017, the application for the SOFS mining right was executed and development should enter the Bloemhoek project area from Beatrix 3 shaft in 2021. Both the Bloemhoek and De Bron Merriespruit projects will utilise existing Beatrix support infrastructure, thus limiting the amount of capital funding needed to reach production phase.



■ Cleaning a gold bar at the SA gold operations