

# Operational performance review

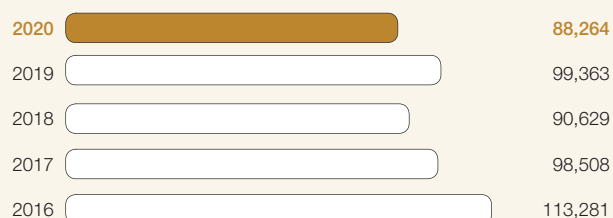
## Barberton Mines

Barberton Mines is a high-margin, high-grade gold producer with an excellent safety record.

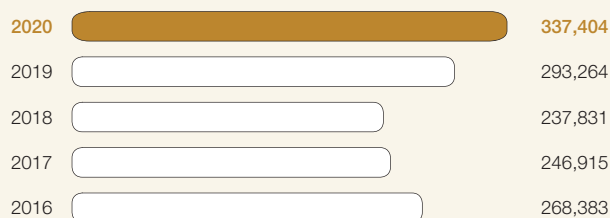


**JAN THIRTION**  
General manager

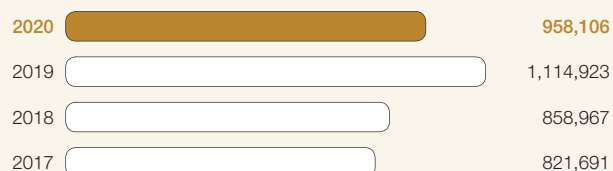
### Gold sold (oz) – total operations



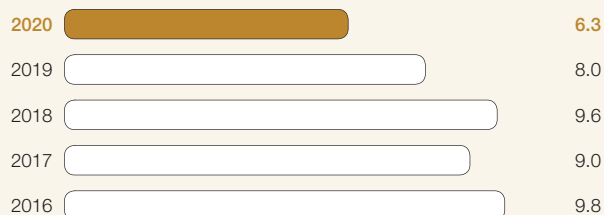
### Tonnes milled and processed (tonnes) – mining operations



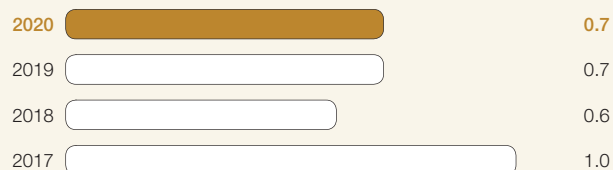
### Tonnes milled and processed (tonnes) – tailings operations



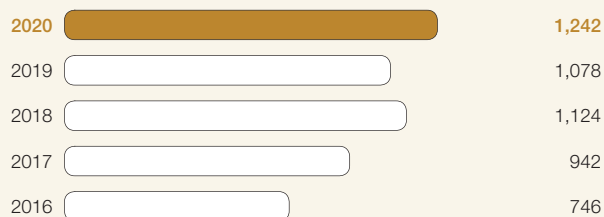
### Overall recovered grade (g/t) – mining operations



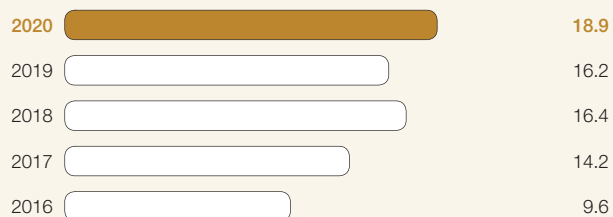
### Overall recovered grade (g/t) – tailings operations



### AISC\* (US\$/oz) – total operations



### Capital expenditure\* (US\$ million) – total operations



\* Converted to US\$ at the average exchange rate prevailing for the respective period.

## HIGHLIGHTS

### Safety

- Achieved 3 million fatality-free shifts in June 2020
- TRIFR and LTIFR (per million man hours) improved to 8.01 (2019: 11.31) and 1.11 (2019: 1.52) respectively
- No fatalities were reported for the year under review
- No COVID-19 cases were reported for the 2020 financial year

### Sales and production

- Gold sales decreased by 11.2% to 88,264oz (2019: 99,363oz)
- Mining operations' decreased production by 9.6% to 68,129oz (2019: 75,356oz)
- BTRP production decreased by 16.1% to 20,135oz (2019: 24,007oz)

### Cost of production

- AISC per ounce increased by 15.2% to US\$1,242/oz (2019: US\$1,078/oz)
- Mining operations' surface operations' AISC per ounce increased by 10.4% to US\$1,375/oz (2019: US\$1,245oz)
- BTRP's AISC per ounce increased by 44.0% to US\$795/oz (2019: US\$552/oz)
- Production costs decreased by 0.7% to US\$91.4 million (2019: US\$92.0 million) including:
  - engineering and technical service costs decreased by 14.5% to US\$5.9 million (2019: US\$6.9 million)
  - salaries and wages decreased by 7.8% to US\$37.7 million (2019: US\$40.9 million)
  - security costs decreased by 7.5% to US\$4.9 million (2019: US\$5.3 million)
  - mining and processing costs increased by 13.0% to US\$27.9 million (2019: US\$24.7 million)

### Capital expenditure

Total capital expenditure increased by 16.7% to US\$18.9 million (2019: US\$16.2 million) comprising:

- sustaining capital expenditure of US\$11.9 million (2019: US\$9.9 million)
- expansion capital expenditure of US\$7.0 million (2019: US\$6.3 million)

### Community and social initiatives

- Implemented a relief programme to assist and alleviate the adverse impact of the COVID-19 pandemic. This involved packaging and distributing over 5,000 food and hygiene hampers to employees, contractors and vulnerable families in communities in close proximity to our operations
- Exceeded compliance with all SLP obligations including training and development targets as well as completion of infrastructure projects in host communities

### Environmental

A feasibility study was completed on the Barberton Blueberries project that will optimise the use of land and water resources, create local employment and downstream processing opportunities, while also reducing the operation's carbon footprint

## OVERVIEW OF OPERATIONS

The mines that constitute the Group's Barberton Mines complex have been operating for over 100 years and include the Fairview, New Consort and Sheba underground operations. These flagship mines are high-grade operations that have the capacity to produce some 80,000oz of gold per year with an excellent safety record in the recent past. Barberton Mines has a life-of-mine estimated at 20 years within the currently identified Mineral Resources and Mineral Reserves report.

Fairview is the birthplace of BIOX<sup>®</sup>, an environmentally friendly process of releasing gold from the surrounding sulphide minerals, using organisms that perform this process naturally and it is still used as the training facility for all BIOX<sup>®</sup> plants globally. Sheba Mine is one of the oldest working gold mines in the world.

Barberton Mines improved flexibility at its Fairview operation, through accelerated underground development programmes which were successfully implemented during the past year. This has resulted in increased face length availability (over 130m of high-grade face length).

**BTRP** was commissioned by the Group in 2013 and is located within Fairview Mine's footprint area. BTRP was designed to treat 100,000t of tailings per month and adds low-cost and low-risk ounces to our production profile, with production of 20,135oz for the 2020 financial year at an AISC of US\$795/oz (2019: US\$552/oz) in the 2020 financial year. The life-of-mine is estimated at six years at current rates of production and it has the added benefit of turning our Barberton environmental rehabilitation liabilities into profits while also rehabilitating ground for more sustainable uses. Additional feed sources are being investigated to increase the life of BTRP.

The development of the **sub-vertical shaft project at Fairview** is progressing

as planned and should be completed over a period of two years, after which it is expected to produce an additional 7,000oz to 10,000oz per annum.

The Group has taken a strategic decision to mine the **PC Shaft pillar at New Consort Mine**, projected to supplement production with a calculated 10kg to 20kg of recovered gold per month. First gold production occurred in the last quarter of the financial year. A total of 36 exploration targets have been identified at New Consort and will be explored during the three years of PC Shaft pillar mining.

Development into the first target block on Level 42 of this shaft has been completed, with proved Mineral Reserves of 5,000t at an average grade of 25g/t delineated. The orebody was intersected in early May 2020, following delays experienced due to disruptions caused by the COVID-19 pandemic.

Initial sampling revealed grades in certain areas in excess of 300g/t containing large amounts of visible gold. Production from this resource block at New Consort Mine is expected to reduce the mine's AISC and ensure the operation's future profitability. The Group's on-site exploration team has identified a number of additional potential targets using advanced exploration techniques, which will be further explored and developed, if viable, in the 2021 financial year.

A presentation containing technical details of the abovementioned PC Shaft project is available on the Group's website at [www.panafricanresources.com](http://www.panafricanresources.com)

**Project Dibanisa** aims to connect the underground infrastructure of Fairview and Sheba, allowing all underground production from Sheba to be transported to the surface through the Fairview infrastructure and treated at the Fairview plant. This will free up the Sheba infrastructure (ZK Shaft and Sheba plant) to be utilised for the development and treatment of the Royal Sheba orebody, significantly reducing the capital requirements for the project.

The Group is currently conducting a feasibility study on the Royal Sheba orebody and will communicate the outcome of the study when it is completed. Further information on Barberton Mines' growth projects can be found on [page 50](#) in the abridged Mineral Resources and Mineral Reserves report.



We achieved 3 million fatality-free shifts during the year. Our operations have a production capacity of 100,000oz per year and a current life- of-mine of 20 years.

## CHALLENGES

The beginning of the 2020 calendar year saw global economies succumb to the unprecedented effects of the **COVID-19** pandemic. This global pandemic has seen our operations downscaling on-mine employee presence to that of essential services in order to meet the South African government's prescribed care and maintenance status in terms of the national lockdown regulations announced by President Cyril Ramaphosa, effective from 27 March 2020. The persistence of the pandemic and the South African government's continued efforts to reduce the rate of infection while keeping reasonable levels of economic activity open, meant running underground mining operations at materially curtailed levels during the initial phase of the lockdown and thereafter increasing it to 50%. Re-mining and surface operations were initially cut to only 50% capacity but were later cleared to increase to full capacity during the lockdown. For the last two months of the financial year, underground operations have been ramping up to full production. The lockdown therefore negatively impacted gold production for the second half of the financial year.

The impact on gold production from **community unrest** remains a challenge. In the current financial year, three production days were lost. This was an improvement on the 20 days lost in the previous year, owing to sustained community engagement and awareness efforts. The unrest is attributed to dissatisfaction with the perceived lack of employment and business opportunities provided by the mines. The Group continues its awareness programmes that inform stakeholders about the importance of mining, its contribution to the local economy and the dangers of illegal mining to sustainability and livelihoods.

As part of its ESG focus, the Group investigated agri-projects as a means to optimally utilise its excess land and water resources, and create sustainable employment for local communities as the Lowveld area has a temperate climate that is suitable for a number of high-value produce. A feasibility study has been completed for the Barberton Blueberries project that has the potential to create 800 seasonal jobs, positively impacting the socio-economic standards of the host communities and optimising the use of resources owned by the mine.

Additional value can potentially be created in downstream and upstream activities including warehousing, packaging, transport and marketing logistics along with agricultural research and development. The Group is investigating carbon credits for the project to offset our existing GHG emissions, further enhancing the operation's ESG profile.

**Illegal mining** continues to adversely affect our gold production and the safety and security of our employees, which in turn impacts revenues and security costs. During the 2020 financial year, more than 1,800 suspected criminals were arrested (2019: more than 2,500) at Barberton Mines for theft of gold-bearing material and other mine assets. The Group's risk and security executive introduced new integrated security strategies which are bearing tangible results.

The increasing **geological complexity** in the mineralisation style of our Mineral Resources and Mineral Reserves also presented challenges during the year. Greenstone belt shear zone-hosted gold deposits are characteristically variable in metal content and mineralised extents, along both strike and down-dip. Due to this unpredictability of the orebodies, the mining face length of the high-grade platforms in the Fairview MRC 11-block and Rossiter Reefs differ from what was planned. During the 2020 financial year, the extents of 256 Platform at the Fairview MRC 11-block were 15m less than planned. This negatively affected the short-term production output of Fairview Mine. To mitigate the effects of the 256 Platform, down-dip development to the 257 Platform was accelerated and the 257 Platform was accessed during the final quarter of the year. This greatly enhanced the flexibility within the high-grade platforms.

The reserve delineation drilling grid was tightened to add more resolution during geological modelling and mine planning to improve the short-term robustness of the plans.

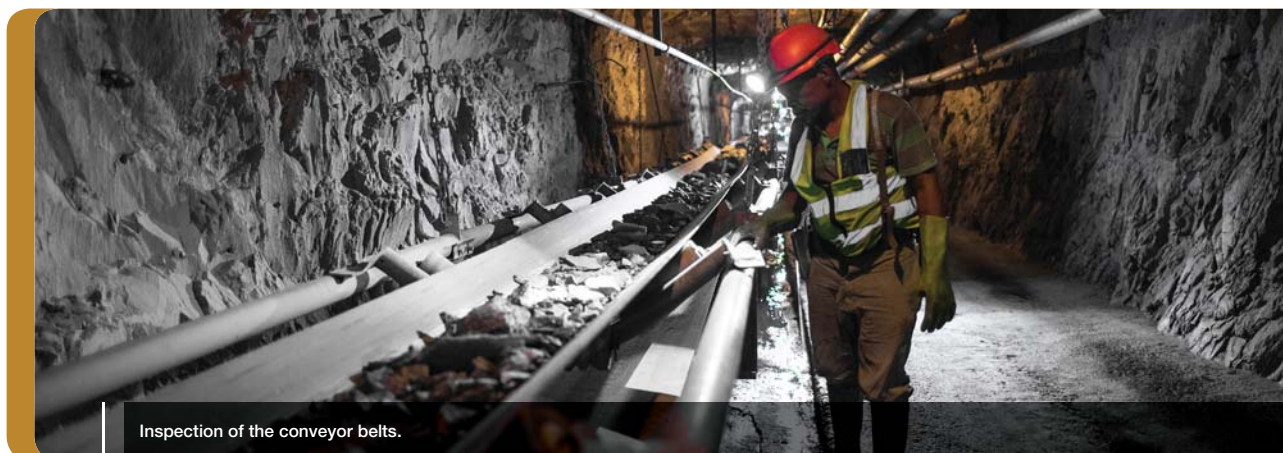
#### FOCUS FOR 2021

Our focus remains on the continued improvement of our safety performance, delivering quality ounces consistent with our production guidance of approximately 100,000oz per annum and advancing value-accretive growth opportunities.

The Group has a demonstrable record of replenishing its Mineral Resources through effective brownfield exploration and is looking to organic growth projects, such as the Royal Sheba project, to further enhance the sustainability and longevity of the Group's operations.

Our primary focus areas for the 2021 financial year are:

- reducing underground unit costs
- optimising Barberton Mines' infrastructure utilisation by advancing the Royal Sheba project and Project Dibanisa
- extending reserve definition drilling programmes to other orebodies
- identifying additional exploration targets using modern geophysical techniques
- improving sustainability of the operation's tailings deposition by extending the Fairview TSF
- commencing implementation of the Barberton Blueberries project to create additional jobs outside mining and reduce our carbon footprint
- initiating a feasibility study for a solar photovoltaic plant to reduce emissions and costs while ensuring reliable electricity supply.



Inspection of the conveyor belts.