

OPERATIONAL PROFILE 2018

AGA MINERAÇÃO

BRAZIL



ANGLO**GOLD**ASHANTI

AGA MINERAÇÃO



AngloGold Ashanti Córrego do Sítio Mineração (AGA Mineração), which is wholly owned, comprises two operational units located in the state of Minas Gerais, close to the city of Belo Horizonte:

- **The Cuiabá complex** comprises the Cuiabá and Lamego underground mines, and the Cuiabá and Queiroz plants. Cuiabá has been in operation for over 30 years while Lamego has been in operation for nine years. The Cuiabá mine has changed from cut-and-fill to sub-level stoping, increasing the contribution from narrow-vein ore bodies to the mine's total production and improving rock-engineering controls (support, design and monitoring). Ore from the Cuiabá and Lamego mines is processed at the Cuiabá gold plant. The concentrate produced is transported by aerial ropeway to the Queiroz plant for processing and refining. Total annual capacity of the complete Cuiabá circuit is 1.75Mt. The Queiroz hydrometallurgical plant also produces around 200,000t of sulphuric acid as a by-product, which is sold commercially in local Brazilian markets.
- **Córrego do Sítio**, in operation since 1989, consists of one open-pit mine and one underground mine. The oxide ore mined is treated by heap leach and a pressure leaching plant treats sulphide ore. The sub-level stoping mining method is used underground. The distance from the main underground mine (Mina I) to the metallurgical plant is around 15km. Combined annual plant capacity is 1.6Mt.

Gold production from both Cuiabá and Córrego do Sítio (CdS) is refined at the Queiroz plant, 141km from the Cuiabá gold plant.

Sulphuric acid is produced as a by-product. In compliance with all applicable legislation, great care is taken to ensure the safe production, transportation and storage of sulphuric acid which is a hazardous material.

AGA Mineração is one of the two AngloGold Ashanti operating mines in Brazil.

PERFORMANCE 2018

HIGHLIGHTS

Production negatively impacted by development delays and infrastructure constraints at Cuiabá

Lower costs boosted by Operational Excellence initiatives

Increased production expected for 2019 from high-grade Serrotinho ore body

Enhanced management of tailings storage facilities

Mineral Resource* of 13.63Moz (inclusive) (6.97Moz below infrastructure)

Ore Reserve* of 1.70Moz (1.18Moz below infrastructure)

** At 31 December 2018*

Operating performance

Production

Full-year production at AGA Mineração in 2018 was impacted by performance at the Cuiabá complex where there were delays in development and infrastructure constraints and geotechnical factors at the access ramp to the high-grade ore body. During the last quarter of the year, operating performance improved as measures were taken to improve mine quality by improving stope availability, drilling and mine recoveries while ensuring compliance to plan.

At CdS, lower grades at the sulphide operation and excessive rainfall contributed to lower production. Production was also impacted by lower volumes placed on the heap leach, model changes and production stoppages due to the national driver strikes.

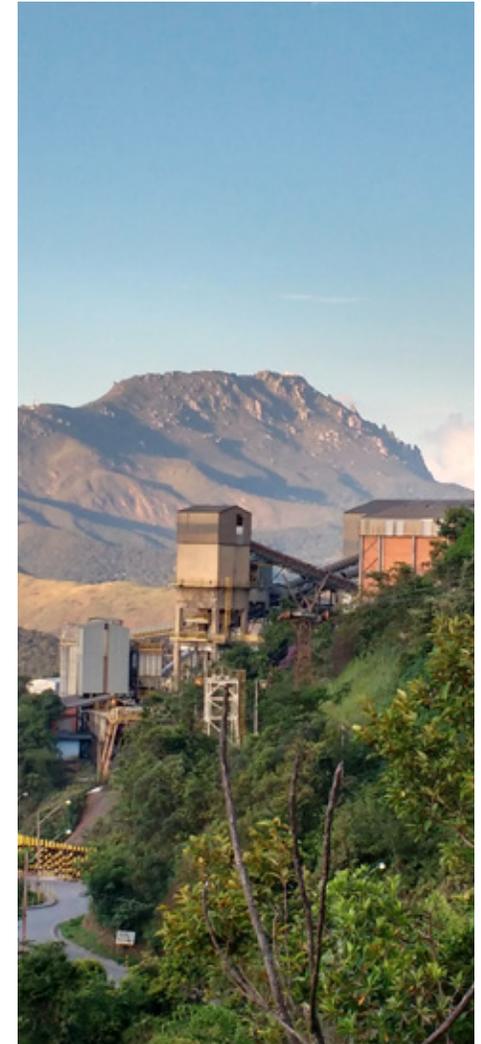
Costs and capital expenditure

AGA Mineração's all-in sustaining costs declined year-on-year, despite lower production volumes and inflationary pressures, which, however, adversely impacted total cash costs. This improvement in all-in sustaining costs was boosted by good results from the Operational Excellence initiatives and a favourable exchange rate.

Several Operational Excellence initiatives were identified and implemented during 2018. In Brazil, as part of the Operational Excellence programme, all sites conducted a full review of operations to improve efficiencies and reduce costs. Labour Reform, an engagement process with stakeholders, created an opportunity to implement a fourth working shift at all mines in Brazil.

Combined with initiatives to optimise the work hand-over at shift change, productivity gains were generated on blasting cycles and development of main ramps and galleries. Operational Excellence initiatives also enhanced metallurgical performance and helped streamline capital expenditure.

Good capital discipline was maintained with stay-in-business capital expenditure proactively managed lower year-on-year, supported by the more favourable exchange rate of the Brazilian real versus the US dollar. AGA Mineração maintained its focus on Mineral Resource and Ore Reserve conversions with the main investment being into Ore Reserve development, to improve confidence levels and mine flexibility, in order to increase stope access.



PERFORMANCE 2018 continued

Growth and improvement

Going forward, plans are in place to increase gold production. Productivity is expected to improve with maximisation of the assets as a result of the Operational Excellence initiatives underway, particularly in the areas of exploration, Ore Reserve development, mining and metallurgy. Significant cost reductions contributed to returning the Mineral Resource and Ore Reserve to plan.

In 2019, the Cuiabá complex is expected to improve production by accessing and mining the high-grade Serrotinho ore body.

At CdS, higher development rates and production from underground mining, along with a new pushback at the open pit, are expected to lead to increased production. Drilling campaigns aimed at confirming ore sources are currently underway. Drill results will help support an improving production case in the medium term and extend the operating lives of the new open pit (CdS III) and of new underground mines at Mina II and the São Bento Deep ore bodies in the long term.

The Cuiabá complex is expected to normalise access to high-grade areas, creating positive conditions so as to adhere to production and development plans to provide flexibility and improve confidence levels. CdS will focus on bringing the new open-pit pushback into production.

Sustainability performance

Safety and health

Implementation of the safety strategy ensured that learning and change management were addressed through various initiatives such as the safety-maturity level research conducted by Du Pont at Cuiabá and the Risk Management Training for Leadership, which applies the Queensland University's G-Mirm model.

For contractor management, the new standard is implemented with training at all operations and top risk contractors are audited using the standard (before hiring and contract signing).

In memoriam

Regrettably, there was a fatal accident at the Cuiabá complex when Mr Heber de Oliveira Temoteo was fatally injured following an electricity-related incident in January 2018. Our sincere condolences go to the families, colleagues, friends and communities of the deceased. Action seeking to shift the operational culture to eliminate fatal incidents is currently underway at Cuiabá.

In the Americas region, infectious disease outbreaks may occur and cause morbidity. This is most commonly due to viral infections. Influenza-type outbreaks are observed seasonally across all the countries where we have operations. In Brazil, a Zika virus outbreak was recorded in 2015-2016 and an increase in yellow fever cases was recorded in 2017-2018. As part of a global phenomenon, non-communicable disease is a growing challenge and accounts for most of the ill-health absenteeism at our Americas operations.

On the occupational front, while recorded exposures are fairly low, noise and silica dust remain important occupational hazards. Although no exposures have been identified, cyanide and lead monitoring are also undertaken.

Environment

A group-wide common, environmental framework has been developed and the group environmental policy, standards and guidelines have been designed to enable a globally consistent approach, that, given regional differences, also provides and accounts for local environmental conditions and application. A process is underway to fully integrate environmental management into our strategic initiatives and core business activities.

No environmental incidents were reported in 2018 (2017: 0). In Brazil, all licences critical to the operations were obtained

despite the country having been through elections.

Management of tailings storage facilities

On 7 February 2019, regulatory authorities in Brazil's Minas Gerais state required the demobilisation at all tailings storage facilities (TSFs) constructed using the upstream design method. AngloGold Ashanti does not have any upstream TSFs in this state, but it does have one centreline facility at the CdS operation.

While the CdS TSF design has been confirmed as a centreline facility by the regulators, as a precautionary step, operations here were temporarily suspended following the unfortunate accident at Vale's iron ore mine in Minas Gerais in January 2019.

The CdS TSF supports production of about 95,000oz a year. The balance of 35,000oz of CdS's annual production comes from its heap leach pad, which is not affected by the TSF suspension. In the meantime, scheduled maintenance was conducted and mining at the site continues as we stockpile ore ahead of the plant, given that the CdS plant has processing headroom above what is normally mined.

AngloGold Ashanti has a clear framework that sets principles, standards and guidelines for the construction, management and oversight of its TSFs. It is our obligation to ensure that our TSFs are stable, non-polluting and contained.

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We are guided in this by international practice, and conduct regular, detailed inspections by internal specialists and independent third-party experts. Monitoring and preventive maintenance is ongoing. Since implementation of legislation in 2015, AngloGold Ashanti has been reinforcing its tailings dam management programme plan in Brazil. Activities in 2018 included dam break simulations and other systems at all business units.

Water

At the Cuiabá mine, access to surface water was secured for the life of the asset with receipt of an updated water use licence from the state environmental agency. Additionally, a water use permit for the AngloGold Ashanti-owned hydro-electric facility, Rio de Peixe, was renewed.

Community development

During the year, we continued to maintain constructive community relations, which reflects the community's goodwill and our good relations with this key stakeholder. We continue to focus on community engagements as a key strategic objective to maintain and strengthen our social licence at all our operations. In Brazil, social investment in communities prioritises projects focused on culture, social development, health, income generation for sustainable solutions.

See the <IR> and <SDR> for more detail on community development projects underway in Brazil.



For further information on AngloGold Ashanti and its work and performance, as a group and in the Americas region, see the <IR> and <SDR> which are available online at www.aga-reports.com

PERFORMANCE 2018 continued

Key statistics

AGA MINERAÇÃO	Units	2018	2017	2016
Operating performance				
Cut-off grade ⁽¹⁾	oz/t	0.053	0.088	0.081
	g/t	1.82	3.02	2.78
Recovered grade	oz/t	0.111	0.145	0.155
	g/t	4.21	4.97	5.31
Tonnes treated/milled	Mt	3.0	3.0	2.8
Gold production	000oz	364	424	407
Total cash costs	\$/oz	723	671	562
All-in sustaining costs	\$/oz	973	1,006	893
Capital expenditure	\$m	96	136	122
Productivity	oz/TEC	10.60	11.66	12.36
Safety performance				
No. of fatalities		1	0	1
All injury frequency rate (AIFR)	per million hours worked	5.05	3.48	3.46
People				
Total average no. of employees		4,736	4,932	4,662
– Permanent		3,418	3,465	3,293
– Contractors		1,318	1,467	1,369
Environmental performance				
Water use	ML	4,717	5,292	5,292
Water use efficiency	kL/t	1.59	1.76	1.90
Energy consumption	PJ	1.72	1.77	1.64
Energy intensity	GJ/t	0.58	0.59	0.59
Greenhouse gas (GHG) emissions	000t	45	52	41
GHG emissions intensity	t CO ₂ e/t	15	17	15
Cyanide use	t	781	878	728
No. of reportable environmental incidents		0	0	1
Total rehabilitation liabilities	\$m	49	57	61
Social performance				
Community investment	\$m	1.2	0.4	1.8
Payments to government ⁽²⁾	\$m	107.4	126.0	129.1

⁽¹⁾ Based on the Ore Reserve.

⁽²⁾ Total paid to the Brazilian government for AGA Mineração and Serra Grande.