



OPERATIONAL PROFILE 2018

SERRA GRANDE

BRAZIL

SERRA GRANDE



Serra Grande, which is wholly owned, is located in central Brazil, in the state of Goiás, about 5km from the city of Crixás. It comprises three mechanised underground mines – Mina III, Mina Nova and Mina Palmeiras – and an open pit. One dedicated metallurgical plant, with an annual capacity of 1.5Mt, treats all ore mined.

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.

Serra Grande is one of the two AngloGold Ashanti operating mines in Brazil.

PERFORMANCE 2018

HIGHLIGHTS

Production slightly down for the year

Operational Excellence initiatives contribute to lower costs

Ingá ore body brought into production

**Mineral Resource* of 3.84Moz (inclusive)
(1.85Moz below infrastructure)**

**Ore Reserve* of 0.39Moz
(0.20Moz below infrastructure)**

* As at 31 December 2018

Operating performance

Production

Production was somewhat lower for 2018 as less ore was mined following receipt of environmental deforestation and waste dump permits later than expected. All permits had been received by year end.

Costs and capital expenditure

All-in sustaining costs were down 14% while total costs declined by 14%, despite lower production volumes and inflationary pressures. This improvement 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. Serra Grande 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.

Growth and improvement

Going forward, plans are in place to increase gold production. Productivity is expected to improve with maximisation of the asset 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.

During the development phase at Serra Grande, while building confidence levels, conversion drilling works delivered results that were 55% better than planned (at 12,722m against 8,217m).

Serra Grande has brought the Ingá ore body into production while work continues on exploring the potential of the Mangaba and Corpo IV ore bodies. The Palmeiras South mineral rights purchase negotiation was concluded in 2018, creating access to the new ore bodies. Additionally, with the purchase negotiations concluded in December 2018, exploration work is expected to begin during the first half of 2019 in the high-potential Palmeiras South area.

Production from the Serra Grande crown pillar is expected to lead to higher grades towards the end of the year but at lower throughput. The Palmeiras South licence is targeted for mid-2019.

The Santos Reis community resettlement activities have begun, which we plan to conclude during 2019, to be able to work on the expansion of the open pit for increased production.

Sustainability performance

Safety and health

While there were no fatalities during the year, the all injury frequency rate was 5.93 million hours worked for the year (2017: 5.49).

In Brazil, an increase in yellow fever cases was recorded in 2017-2018. Globally, non-communicable disease is a growing

PERFORMANCE 2018 continued

challenge and accounts for most of the ill-health absenteeism at our Americas operations.

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

Community development

During the year in Brazil, we maintained 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.

For information on major community projects implemented in Brazil in 2018, see <IR>.

In addition, community health initiatives are implemented, focusing mostly on health education and campaigns about health issues specific to local communities.

A Voluntary Resettlement Agreement for the Santos Reis community adjacent to Serra Grande was signed by the relevant stakeholders. At the end of 2018, resettlement had already started with some of the families having been resettled to new homes in Crixás Town, the relocation of the remaining families is planned for 2019.

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

SERRA GRANDE	Units	2018	2017	2016
Operating performance				
Cut-off grade ⁽¹⁾	oz/t	0.055	0.053	0.071
	g/t	1.87	1.80	2.45
Recovered grade	oz/t	0.101	0.086	0.092
	g/t	3.55	2.95	3.17
Tonnes treated/milled	Mt	1.1	1.4	1.3
Gold production	000oz	130	133	132
Total cash costs	\$/oz	660	764	634
All-in sustaining costs	\$/oz	945	1,103	1,020
Capital expenditure	\$m	35	38	43
Productivity	oz/TEC	10.50	10.13	10.13
Safety performance				
No. of fatalities		0	0	0
All injury frequency rate (AIFR)	per million hours worked	5.93	5.49	8.05
People				
Total average no. of employees		1,462	1,578	1,587
– Permanent		1,158	1,173	1,151
– Contractors		304	405	436
Environmental performance				
Water use	ML	1,500	1,504	1,623
Water use efficiency	kL/t	1.29	1.06	1.23
Energy consumption	PJ	0.54	0.56	0.54
Energy intensity	GJ/t	0.47	0.39	0.41
Greenhouse gas (GHG) emissions	000t	21	24	19
GHG emissions intensity	t CO ₂ e/t	18	17	14
Cyanide use	t	450	548	533
No. of reportable environmental incidents		0	0	0
Total rehabilitation liabilities	\$m	13	16	17
Social performance				
Community investment	\$000	322	114	383
Payments to government ⁽²⁾	\$m	107	126	129

⁽¹⁾ Based on the Ore Reserve.

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