

MATERIAL ISSUES / ENVIRONMENT

GRI / SASB / Policies and standards

ENVIRONMENTAL STEWARDSHIP



PRIORITISED SDGs

Our environmental stewardship activities are focused on managing the impact of our operations on land, water, air and energy resources. Our programmes are governed by the Group Environment Policy, Standards and Guidelines. A number of programmes were progressed, and others completed, during the year.

In common with many industries, the COVID-19 pandemic and subsequent national lockdowns and travel restrictions introduced changes to the status quo in the mining industry. Environmental authorisation processes were amongst those impacted, requiring our environmental staff

to evolve innovative approaches to ensure that permits, critical for the continuation of operations, were obtained.

In Brazil, to limit delays in several licensing processes caused by travel restrictions on regulators conducting site inspections, the team worked with regulators to provide focused drone video footage of project areas. In Colombia, the National Environmental License Authority (ANLA), mindful of the limitations that social distancing has on public consultation around the Quebradona Environmental Impact Assessment (EIA), worked with us to overcome the challenge of holding traditional town hall sessions. This has

included the design of virtual engagements, to be run in 2021, with the emphasis on ensuring equal access to all parties and that the legitimacy of the permitting process remains the absolute priority. In some cases, however, as was the case with Sigüiri in Guinea, extended delays due to COVID-19 restrictions resulted in a few environmental permits expiring before the renewal processes could be completed. Despite the challenges, the Guinean environment regulator undertook a public consultation and site verification for the proposed Sigüiri Block 2 mining project, granting the environmental permit within the anticipated timeframe.

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“Effective stewardship of the environment is kept in focus as we work to meet business objectives.”

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agreement with respective auditors, underwent virtual audits of their management systems to the extent possible, with field verifications to follow once travel restrictions are lifted. The combined assurance audits through which we assess conformance against our Environmental Standards were similarly impacted, resulting in remote reviews of an operation's performance, also to be augmented once restrictions are lifted.

Despite the operational challenges, AngloGold Ashanti's environmental teams continued to progress several initiatives through the year with a number of programmes completed. An example is our Obuasi redevelopment project in Ghana, where we developed an enhanced management operating system, clearly setting out the accountabilities and workflow maps in between the environment line functions.

Environmental incident rate (number of incidents per million tonnes mined)



Audits and certification updates

The pandemic had a varied impact on certification processes and audits throughout our operations.

- Sunrise Dam's Cyanide Code was successfully recertified.
- An online International Organization for Standardization (ISO) surveillance audit was completed for the Generative Exploration unit.
- At Cerro Vanguardia virtual follow-up audits of the ISO management system were performed.
- Remote audits successfully completed at Iduapriem and Siguirí. Physical site verifications to follow when COVID-19 restrictions are eased.

87% certified

to International Cyanide Management Code

94% certified

to ISO 14001:2015

Obuasi will initiate work towards ISO14001 and ICMI recertification during 2021

Reportable environmental incidents



Incident description	Immediate and corrective actions
On 16 January 2020, an engineering team at Siguirí mine was preparing to connect the new Tinkisso river water supply pipeline to the existing raw water pipeline at the Return Water Dam area, 1.7km from the Siguirí processing plant.	Hydrogen peroxide was dosed to neutralise any potential residual cyanide in the process water and the stream was diluted with raw water from the Tinkisso River. The nearby community was advised of the incident and community warders were stationed to prevent human and livestock access. The Siguirí Environment Directorate was notified and invited to site for sampling and assessment. Water quality sampling continued until the impacted stream was confirmed as being safe. Within four days, sample results showed complete dissipation of the impact downstream of the spillage location.
The team needed to drain the existing pipeline to complete the tie-in. Unfortunately, the tailings Return Water pipeline running alongside the existing raw water pipeline, was opened and drained for three hours.	The area was immediately barricaded, and samples collected and analysed. Hydrogen peroxide was applied to the ponded water to neutralise any cyanide present and the water was pumped back to the plant.
The drained water, assumed to be raw river water, was directed to the nearby Diamon stream. The team was alerted to their mistake and immediate remedial action was taken.	
Power outages during mid March at Siguirí mine's Wartsila power plant resulted in the overflow of the mills and various process plant tanks.	
This occurred while construction to upgrade the plant's pollution dam was underway and temporary spillage control infrastructure was being used.	
An estimated 25m ³ of the water being held in the temporary containment system, seeped through the slightly porous laterite wall, pooling outside the fenced area and was discovered during a security patrol.	
Samples recorded contaminants higher than the IFC effluent standards.	

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 Incident description	 Immediate and corrective actions
<p>On 5 June 2020, a leak developed on a section of Cuiabá mine’s tailings pipeline, located between the plant and the TSF.</p> <p>Most of the material spilled onto the unpaved TSF access road, but despite additional measures to contain the spill with geotextiles, an estimated 5m³ entered the Cuiabá Creek via a system of stormwater ditches and sedimentation sumps.</p> <p>Samples of the impacted stream found manganese and turbidity outside of compliance limits.</p>	<p>The residue pump system was stopped and work to repair the pipeline initiated.</p> <p>In parallel with clean-up operations of the road and the stormwater drainage system, water quality and sediment monitoring downstream of the site was initiated.</p> <p>Mine staff informed the environmental authorities and key stakeholders, including community leaders.</p> <p>Monitoring of the watercourses showed the effect to have completely dissipated within two days.</p> <p>Fine tailings material on the banks of the Sabará river was later cleaned up.</p>
<p>On 20 June 2020, a buried pipeline conveying impacted storm water from Obuasi mine’s dormant Pompora TSF facility, for treatment at the Pompora Water Treatment plant, was reported to be leaking.</p> <p>An estimated 200m³ of impacted stormwater was released to the clean stormwater bypass canal running alongside the TSF and discharging into the Kwabrafo stream.</p> <p>Subsequent investigation found that the pipe was likely damaged by earth moving equipment passing next to it, but being buried, the damage remained undetected until rain was being routed off the TSF.</p>	<p>Water samples taken at the incident site and downstream in the Kwabrafo river showed contaminants above the Environmental Protection Agency (EPA) effluent quality guidelines. However, throughout 2020, this has been characteristic of this part of the Kwabrafo river, in large part due to illegal mining disturbance in the watercourse.</p>

 Incident description	 Immediate and corrective actions
<p>A leak on Mineração Serra Grande’s tailings pipeline was detected by mine staff during inspections at the end of June 2020.</p> <p>On evaluating the extent of the spill, it was discovered that released slurry had reached the Vermelho River via a natural drainage path.</p> <p>Water sample results taken in the river did not detect any appreciable changes in its water quality.</p> <p>Community and local authority representatives enquired about the incident and responses were provided by mine staff.</p>	<p>The pumping systems were immediately shut down and the leak was repaired.</p> <p>The environmental authority and key stakeholders (including community leaders) were notified and the environmental agency visited the site on the subsequent two days.</p> <p>Samples of water, soil and sediment were collected by the environmental agency authority and Serra Grande staff.</p> <p>The mine was requested to provide the regulator with additional information such as water, soil/sediment analyses and findings from its internal investigation.</p>
<p>Following a 40mm rainfall event in mid July, on the Saddle 3 area of Siguiri mine’s TSF, a large volume of stormwater runoff accumulated against Saddle 3’s paddock wall. The paddock system is designed to contain runoff from the outer slopes of the cycloned TSF wall.</p> <p>Static pressure from the standing water caused a rathole to form at the base of the paddock wall, allowing the stored water to be released onto the TSF perimeter road. This overwhelmed a secondary containment bund located outside of the TSF perimeter road and the spill continued beyond the TSF outer fence, onto community-owned cashew farms.</p> <p>Water samples showed some contaminants were above the IFC Effluent Discharge Standards.</p>	<p>The impacted area was secured to prevent further discharge outside the TSF fence and to avoid any livestock accessing the spillage.</p> <p>Detailed incident and geotechnical investigations noted the primary cause to be improper maintenance of the paddock containment system, which allowed water ponding in a single area.</p> <p>The paddock was reconstructed with segments to prevent a recurrence and with facilities to regularly remove accumulated silt.</p>

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Incident description

After searching for the source of sporadically elevated levels of contaminants in a nearby stream, on 30 July 2020, the Obuasi mine's environmental monitoring team discovered a vandalised HDPE pipeline discharging water into a drainage system.

On investigation it was found that a ~3m portion of the pipeline had been removed and stolen by unknown person(s).

The source of the water was identified as a bypass stream from the water treatment plant, which intermittently directs excess process water to the mine's Pond 3 facility, for temporary storage.

At the Obuasi mine during mid November, the crew of an engineering contractor was tasked with installing a new 400mm isolation valve on the South TSF return water pipeline

The task required draining residual water from a partly opened flange on the pipeline, to a predetermined containment zone. However, when the supervisor left his crew to fetch some additional tools, they further opened the flange to increase the flowrate of the water being drained.

This resulted in process water overrunning the intended containment zone, and spilling an estimated 25m³ into a storm drain that leads to a natural wetland area.

Samples at the point of the release recorded contaminants in excess of the EPA guidelines. Fortunately, upstream and downstream analyses did not show a determinable impact from the event.

Immediate and corrective actions

After the flow was stopped, the missing portion of the line was re-installed.

At the time, theft had been a significant issue on the mine footprint, with other materials being stolen from sites where construction was ongoing.

The incident was reported to the Ghana EPA who requested the mine to share its investigation outcomes, and recommendations on preventing similar incidents.

On discovery, the flange bolts were immediately retightened and the work halted. It was only recommenced after water levels on the TSF had sufficiently reduced and the pipeline fully emptied.

Approximately 75% of the water was pumped back from the concrete containment area to the TSF.

The need to ensure adequate supervision for all tasks and that they are executed to plan, was reiterated with all AngloGold Ashanti and contractor staff, as well as the need to consider potential environmental impacts during job planning.



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