INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Cyanide Code Compliance Audit Gold Mining Operations

Recertification Summary Audit Report

AngloGold Ashanti Siguiri Gold Plant Guinea

8th – 12th May 2019

Name of Operation:	SAG (Société Ashanti Goldfield de Guinée)
Name of Operation Owner:	85% AngloGold Ashanti 15% Guinea Government
Name of Operation Operator:	AngloGold Ashanti
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Location detail and description of operation

The Siguiri mine, operated since 1997, is an open-pit operation, located in the Siguiri district in the north-east of the Republic of Guinea, West Africa, about 850 km from the capital city, Conakry. The nearest major town is Siguiri (approximately 186,995 inhabitants), located on the banks of the Niger River. AngloGold Ashanti has an 85% interest in the operation, with the balance of 15% held by the government of Guinea. AngloGold Ashanti operates the site under the Société Ashanti Goldfields de Guinea. The site was originally owned by Ashanti, which merged with AngloGold in 2004.

Since construction began in January 1997, drilling/blasting, waste and ore loading and hauling and blending of laterite and saprolite ore from a group of open pits (Bidini, Eureka Hill, Kosise and Kami) at the primary crusher have been conducted 365 days a year. Processing began in 1997 via heap leaching and was continued for eight years, after which the long-term potential of the site as a heap leach became limited. As the percentage of heap-leachable ore declined (and to be able to exploit saprolitic ores that extended below the base of the existing pits), a CIP (Carbon-in-Pulp) plant was built.

Since February 2019, the Siguiri combination plant was commissioned, in which the ore reception section consists of three off-loading pads, ROM(Run-of-Mine) 1, ROM 2 and ROM 3 where dump trucks directly tip ore into tipping bins or stockpile the material on the pads. Ore from the tipping bins is withdrawn at controlled rates by hydraulically powered variable apron feeders in close loop with mass meters to feed MMD (company name) sizers at ROM 1&2. ROM 3 treats the hard, transitional material in three-stage crushing, comprising a primary jaw crusher in open circuit with buffer stockpile, and the secondary and tertiary cone crushers which are in close circuit with vibrating screens.

Crushed products from ROM 2&3 crushers are transported in a series of overland conveyor belts onto a crushed ore stockpile located near the process plant. The stockpiled ore is withdrawn by the west apron feeder to CVR04, feeding the new Ball Mill 2. The second apron feeder-east, located underneath the stockpile, is capable of feeding both the existing Scrubber and the new Ball Mill 2, depending on Scrubber power and ore requirements. The existing ROM 1 continues to feed oxide material directly into the Scrubber/Ball Mill 1.

Scats generated from the scrubber are crushed in existing Symons 7 ft. short head cone crushers (running and standby), one crusher via a 6,000t live scats stockpile. New ball mill scats are also stockpiled near the existing scats stockpile. Crushed scats are returned, at a controlled rate, to the existing scrubber and/or new Ball Mill 2.

Crushed ore is fed to a 6.15m diameter x 11.1m length Scrubber, equipped with a 2500 kW installed drive. Scrubber discharge, controlled at approximately 50% solids by weight, is fed onto a vibrating double deck scrubber screen, fitted with 35mm/15mm square aperture polyurethane panels to scalp off scats. Scrubber screen oversize ore discharges go to a scat stockpile via a conveyor, whilst the undersize goes into a mill sump.

As a part of the comminution circuit, there is a 6.15m diameter x 9.0m length Ball Mill 1 which operates in closed circuit with a cluster of cyclones. The ball mill is equipped with a 6000 kW installed drive and takes its feed predominantly from cyclone cluster underflow. The ball mill discharges onto a trommel screen from where the undersize gravitates to the mill sump to join the scrubber screen undersize before both are pumped to the cyclone cluster. Ball Mill 1 trommel screen oversize discharges into a scats bunker. The mill cyclone cluster overflow gravitates to the new trash screen with the underflow being split as gravity circuit and ball mill feed. Trash screen undersize gravitates to the CIL(Carbon-in-Leach) feed pump which discharges to the leach circuit.

A new 12 MW Ball Mill 2, with fixed speed gearbox and liquid resistance starter, runs in closed circuit with 15 inch cyclones cluster and a gravity Knelson Concentrator. The cyclone underflow is bled off to feed a scalping screen. The

screen undersize feeds two 48 inch Knelsons. The cyclone overflow is detrashed in the new linear screens plant near the CIL tanks, joining the Scrubber/ Ball mill 1 product as CIL feed.

The overflow from the mill 1 cyclone cluster gravitates to the trash screens. The slurry from the mills is distributed by a distributor to three trash screens where debris such as woodchips, fibres, wire and plastic are removed. The undersize from the trash screen is pumped to the CIL tanks through newly installed weir mineral 14/12 AH (proprietary name) centrifugal pumps, two running with one standby. A flow meter and a density meter are installed on the transfer pump discharge line to record the plant throughput.

Two parallel streams of gravity circuits are installed, comprising two sets of 48'' Knelson concentrators and a Gekko in-line leach reactor in each circuit. A bleed stream of cyclone underflow is split and fed to two gravity scalping screens fitted with 3mm/4mm square aperture polyurethane panels to remove oversize material prior to feeding to gravity recovery units.

Gravity screens oversize goes to the ball mill while the screens undersize serve as feed to two 48 inch Knelson Concentrators to recover free gold. The tailings from the concentrators go into a gravity tails sump from where the tails are pumped to dewatering cyclones. The concentrates generated from the concentrators undergo Intensive Cyanidation leaching in a Gekko leach reactor.

The tailings from the CIP circuit gravitate into a splitter where it is distributed to three tailings linear screens. Spray water is added to the screens to ensure efficient wet screening and cleaning of the screen cloth. The undersize from each linear screen flow by gravity to a tailings tank for onward pumping to a tailings dam.

Auditor's Findings

1. PRODUCTION: Encourage responsible cyanide manufacturing by purchasing from manufacturers who operate in a safe and environmentally protective manner.

Standard of Practice1.1: Purchase cyanide from manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide, and to prevent releases of cyanide to the environment.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 1.1**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
The operation's contract with Samsung requires that the cyanide is produced at a facility that has been certified as being in compliance with the Code.
Samsung, a certified Cyanide Code consignor recertified on 30 January 2018, obtains cyanide briquettes from cyanide producers, TaeKwang (ICMI certified on 19 June 2017). Samsung is also responsible for the transport of the cyanide. The contract requires that Samsung must be certified by the ICMI Cyanide Code and all sub-contractors must also be certified under the Cyanide Code.

2. TRANSPORTATION: Protect communities and the environment during cyanide transport.

Standard of Practice 2.1: Establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 2.1**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
There is a Contract for supply and transportation of sodium cyanide briquettes between Samsung and AngloGold Ashanti (AGA) Siguiri Gold Mine, in place. The contract

specifically covers the responsibilities and requirements for transport, safety, security, unloading, emergency response (spills prevention and clean-up), route planning and risk assessments, community liaison, emergency response resource access and availability, training, and communication.
Presently, neither AGA Siguiri nor TaeKwang add dye to the briquettes or during mixing. AGA will apply this requirement from 1 July 2019. When the new AGA annual contract amendment is negotiated for implementation from January 2020, responsibilities for dye addition will be clearly identified in the supplier agreement.

Standard of Practice 2.2: Require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 2.2**

 not in compliance with

Basis for this Finding/Deficiencies Identified:
The supply contract requires that the producer/supplier of cyanide must be a signatory to the ICMI Code and the producer supplier and transporter must be ICMI certified. The Samsung Africa supply chain was recertified on 30 January 2018 covering the complete supply chain from the producers in Korea to the site in Siguiri, Guinea. Furthermore, the road transporter, Transport Terrasement Minier (TTM), was re-certified on 19 September 2016 and is due for recertification by 19 September 2019. Thus, appropriate emergency response plans, capabilities and adequate measures are in place for sound cyanide management.
Chain of custody records were sampled for 2017 and 2019. These included original mine Purchase Orders, Stock Reagent Schedules reflecting Purchase Orders, Bills of lading, Convoy manifests, Government Convoy Approval notes and signed and receipted transporter delivery notes.

3. HANDLING AND STORAGE: Protect workers and the environment during cyanide handling and storage.

Standard of Practice 3.1: Design and construct unloading, storage and mixing facilities consistent with sound, accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 3.1**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
There were no changes to the cyanide mixing and storage facilities since the previous certification audit, except for the addition of an additional cyanide feed line to the new ILR (InLine Leach Reactor) section in the new mill.
The previous certification audit evidence was: "The facilities used up to September 2012 were designed by SENET and constructed in 2005. Designs and drawings were reviewed and found Code Compliant during the certification audit in March 2010. Upgrading of the cyanide facilities commenced following a change management and risk assessment process (MOC of 9/9/08). The cyanide dosing tank was repaired and inspected. The new facility was commissioned, completely replacing the old facility, in September 2012. The new facility consists of a solid cyanide store, a mixing tank, two storage / dosing tanks and the required infrastructure, secondary containment, pumps, pipes and spillage sumps and pumps. A decontamination bay is also included in the section. The facilities were designed according to AngloGold Ashanti specific cyanide design specifications: AGA "Africa Region Cyanide Code Volume 1 - Gold Extraction Plants, Tank Leach Circuit Revision 05 February 2008". This guideline serves to provide the basis for ensuring that cyanide off-loading, storage and dosing facilities are designed in accordance with AngloGold Ashanti specifications and incorporate the cyanide specific requirements for plant and equipment as specified in these guidelines. Civil specifications are according to SABS 1200 and AngloGold Civil Engineering Specifications."
It was verified during the site visit that the unloading and storage areas for liquid and solid cyanide remain located away from people and surface waters.
The mixing and storage tanks are equipped with electronic level indicators linked to the SCADA (Supervisory Control and Data Acquisition) computerised control system. (The electronic level indicators have a scheduled inspection and test during the 3 weekly maintenance scheduled shutdown.) Pumps are interlocked with the level indicators stopping the pumps at 90%, which are managed from the control room. The mixing and storage tanks are located within a steel framework above a concrete bunded area. All secondary containments are constructed of concrete and sealed with suitable material resistant to caustic cyanide solutions. The tanks are located in the open air with ventilation pipes on top. The dry solid cyanide is stored in a purpose-built store, which is roofed. The concrete floor is equipped with a longitudinal drain down the length of the store to direct any rain water coming in through the access openings, away from the boxes to a sump where an automatic pump pumps it to the cyanide tank bund. Any water in the cyanide tank bund is pumped to the barren solution tank. The unloading and storage areas are in a secure, fenced, 24 hr, access-controlled area, situated outside the main plant away from any incompatible materials.

Standard of Practice 3.2: Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 3.2**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
The cyanide make-up procedure clearly describes the detailed steps involved in cyanide mixing, including the operation and sequencing of valve opening and closing and coupling. Forklift drivers and trained and recertified 2 yearly to minimise the risk of damaging cyanide containers during handling and the height of stacked cyanide containers is limited to three high. All cyanide packaging is incinerated in a secure, locked and fenced area on top of the nearby disused heap leach facility, which is within the wider controlled mine site. This is done on the same day that the mixing event takes place with the boxes and plastic packaging taken directly from the solid cyanide storage area to the secure box burning area. The auditors confirmed the risk assessment, on the Rinsing of Cyanide Liners before Disposal dated 18 August 2008, that assessed the risks associated with rinsing the plastic bags and liners, to be greater than immediately burning the boxes once the mixing event has been undertaken, is still valid.
The cyanide offloading, sea container de-stuffing and mixing procedures are detailed, spelling out PPE (Personal Protective Equipment) requirements, use of a buddy in the process, and clearly sequenced to prevent spillages and accidental releases during mixing and transfer processes. The container destuffing procedure includes the requirement that the sea containers will be cleaned inside and locked before leaving the mine site.
Presently, neither AGA Siguiri nor TaeKwang add dye to the briquettes or during mixing. AGA will apply this requirement from 1 July 2019. When the new AGA annual contract amendment is negotiated for implementation from January 2020, responsibilities for dye addition will be clearly identified in the supplier agreement.

4. OPERATIONS: Manage cyanide process solutions and waste streams to protect human health and the environment.

Standard of Practice 4.1: Implement management and operating systems designed to protect human health and the environment utilizing contingency planning and inspection and preventive maintenance procedures.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 4.1**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
The site has 80 cyanide specific operational and maintenance procedures. A corporate Tailings Management Framework lists commitment (including freeboard) is in use and includes ICMI Code requirements. A Regional Tailings Management Code of Practice West Africa Division is also in place. The Operational Manual for the TSF (Tailings Storage Facility) specifies the following: Freeboard as 2m below spillway elevation (lowest point on dam wall), and Maximum storm event - 1:50 year 24hr storm. The March/April 2019 Surveillance Report stated that with a few exceptions, the TSF is being constructed within the set limits and specifications, and mostly to best practice. All tanks, bunds, ponds, impoundments, pipelines, valves and pumps in the plant and on the TSF are listed on the SAP (proprietary company name) computerised Planned Maintenance System (PMS) and are inspected on a regular basis. SAP system PMS inspections include external annual thickness tests for cyanide make up and storage tanks. The Leach and CIP tanks on ring beams form part of the Risk Based Inspection (RBI) program and on-going inspections reports, thickness testing and breakdowns and repairs for all tanks were sampled and reviewed. Wildlife inspections are carried out daily. Operational inspections are carried out daily and safety and health inspections monthly. Following a review of inspection records, the auditors deem the inspections frequencies sufficient to ensure and document that cyanide facilities are functioning within design parameters. The plant is equipped with bund areas, sumps and sump pumps to return any spillage to the process tanks. During the electronic review of the SAP PMS, a full list of all generators on the site was sighted and PM (Planned Maintenance) records found to be complete.
The site has an established Management of Change (MOC) procedure. No plant-originated changes increasing cyanide release or exposure were carried out since the previous audit and thus no MOCs were required. However, during discussion with the Project Manager and his Team, it was confirmed that standard Project Management Principles (which cover MOC considerations) are followed. These included conducting HAZOP 3 on the ILR section. Design information includes P&IDs (Piping and Instrument Drawings), pipe isometrics, and detail Gekko Vendor Package designs.

Standard of Practice 4.2: Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

X in full compliance with

The operation is
- □ in substantial compliance **with Standard of Practice 4.2**
- □ not in compliance with
- □ not subject to

Basis for this Finding/Deficiencies Identified:
The Plant is in the process of installing facilities to treat lower pit hard ores, replacing the oxidised feed to the plant. This change was commissioned in 2019. The Transitional ore

stockpile will be run through the plant for around three months. During the interview with the Plant Metallurgist, it was noted that the ore will require higher cyanide consumption as a result of the oxidised sulphides forming SAD (Strong Acid Dissociable) cyanide compounds. No increase in the base metal contents is expected and thus WAD (Weak Acid Dissociable) cyanide remains unchanged, but this must be monitored.
Test work on the hard ore was sighted and the report, "Siguiri Combination Plant Project – Detailed design Note for the Record – Transitional and Oxide samples dated 21 October 2016" was reviewed. This was conducted as part of the feasibility study. The tests included Bond Working Index, Gravity and intensive leach, overall gold recovery, diagnostic leach, and blends. The report concludes that good pH control is required. The transitional stockpile material requires more cyanide (500g/t Sodium Cyanide) than that which was specified (240g/t Sodium Cyanide) for the Combination plant project in the Feasibility Study.
The Plant reported that the normal routine bottle roll tests continue and this was confirmed during the interview with the Plant Metallurgist. The testwork included viscosity and recovery work during the commissioning where the ore blend is still not constant. The higher cyanide consumption was noted as the ore blend contains more transitional material. This was predicated in the report noted above. Prior to the commencement of the new combination project in 2018, the cyanide consumption was stable and routine bottle roll tests confirmed operational performance.

Standard of Practice 4.3: Implement a comprehensive water management program to protect against unintentional releases.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 4.3**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
The Mine uses the OPSIM (Proprietary name) probabilistic water balance software model. The model covers the whole mine including the TSF, Plant, holding ponds, pits and Tinkisso river. The model is updated weekly when levels and flow data is obtained.
The factors included in the model are the following: - The daily actual tonnage, a target annual tonnage and moisture factor, the 1:50 year 24 hr storm event, local rainfall data since 1983 with daily rainfall data being provided by the site's weather station, evaporation data, ponds and catchment data, calculated recycled water from the TSF penstock, and TSF seepage data derived from the wall seepage recovery system. There is no discharge to surface water.
The TSF uses the gravity flow system of the penstock, thus a power outage will not impact on the TSF pool levels. The Return Water Dam (RWD) is not at risk during the dry season, but during wet season the RWD may be at risk to overflow. Two power lines are supplying power to the RWD and a standby pump is available at the RWD. OPSIM

weekly reports during wet (August 2018) and dry seasons showing dam levels were sighted. At the weekly Water Management Team meetings, action is planned to manage water levels, based upon the reports. Action includes recycled water control at the TSF penstock.
Piezometer readings at the TSF are taken on a weekly basis. The quarterly TSF surveillance reports by Geotechnical Engineers include a review of phreatic levels. The annual report includes notes on stability risks and recommended remedial action.
An operating procedure is in place for the return water dam, with the procedure covering wet and dry season RWD levels and actions to manage the RWD. RWD and TSF freeboard is measured weekly. Water management is reviewed on a weekly, monthly, quarterly and annual basis, based on prediction of pond levels. This covers all seasons. Electronic examples of the weekly reviews and reports, including action columns were reviewed. The OPSIM model calibrates automatically and recalculates assumptions, based on on-going precipitation, evaporation and pond and impoundment levels.

Standard of Practice 4.4: Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 4.4**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
The TSF is fenced off and has security access control at the entry gate. The evaluation of the WAD cyanide results, detailed below, indicate that the feed to the TSF is mostly under 60 mg/l WAD cyanide. Exceedances were investigated, causes identified and remedial action implemented, where possible.
Samples are taken daily at the TSF discharge point and analysed at the site laboratory for WAD cyanide using a Cynoprobe.
From June to December 2016 (since previous re-certification), no exceedances above 50mg/l WAD cyanide were reported. Similarly, from January to December 2017, no exceedances were noted. From January to June 2018, the Cynoprobe was down. The cyanide samples taken at TSF spigot were sent to the laboratory and analysed for free cyanide. The calculated spigot WAD cyanide, based on using indicated base metal complex values through calculating the difference between WAD cyanide and Free cyanide on the same sample at the Cynoprobe was used as the compliance sample. The calculated WAD cyanide values for the period were less than 50 mg/l.
From 9 June to December 2018, grouped exceedances of 55, 56, 59, 60, 61, 85, 54, 53, 64, 70, and 60 mg/l WAD cyanide were reported. The investigation reports for the grouped exceedances indicated that the causes were ore variations and instrument faults with mitigation using Peroxide.
Similarly, high WAD cyanide investigation for the period 12 to 20 Sept 2018 showed the average WAD cyanide was 52.9 mg/l. The reason was identified as the increase in

Transition Material requiring an increase in cyanide addition to CIL 3, leading to increasing the tails WAD cyanide. The corrective action included stopping cyanide dosing to CIL 3 and increasing detoxification in CIP tank 7 to 60% peroxide. WAD cyanide investigations of exceedances for the period 4 to 10 Oct 2018 were undertaken. The reason for the exceedances was that tanks were off-line for the construction project, and remedial action included lowering the cyanide setpoint in no 1 leach and starting detoxification in tank 7 to increase residence time for Detoxification and WAD cyanide results went back to normal. The investigation for 8 to 17 November 2018 exceedances indicated unavoidable ore variation and equipment failure.
WAD cyanide values from January to date 6 May 2019 showed two exceedances of 63.4mg/l and 68.15mg/l. Both exceedances were Caused by changes in ore mix. These were managed by Peroxide addition. The notes under 4.2, cyanide optimisation, above, covering the testwork on the different ore types and higher cyanide consumption requirements by the harder ore illustrate some of the control challenges.
No cyanide related bird mortalities on the TSF have been reported since the previous certification indicating effective management. No heap leach facilities are being operated.

Standard of Practice 4.5: Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

X in full compliance with

The operation is

□ in substantial compliance with **Standard of Practice 4.5**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
No indirect discharge to surface water was confirmed and this is determined by borehole and surface water sampling of the river. The river is sampled for free cyanide up and downstream and all results over the past three years were less than the 0.03 mg/l limits of detection. Results of Quarterly samples sent to the SGS(proprietary name) Mali laboratory were less than 0.005 mg/l WAD cyanide limits of detection.
Boreholes sampling results of groundwater around the TSF were reviewed. All results are less than limits of detection of 0.03 mg/l. The quarterly samples sent to SGS Mali laboratory were less than the 0.005 mg/l WAD cyanide limits of detection.
Indirect discharges from the operation have not caused cyanide concentrations in surface water to rise above levels protective of a designated beneficial use for aquatic life. Therefore, no remedial action has needed to be taken.

Standard of Practice 4.6: Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of ground water.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 4.6**

□ not in compliance with

Basis for this Finding/Deficiencies Identified

The TSF is equipped with finger drains that drain into a seepage sump. The solution is pumped from the sump to the top of the TSF via an automatic pump. Monthly free cyanide sampling for seepage collected in the Seepage Sump at the base of the TSF were observed and all values were below the detection limit of 0.03 mg/l free cyanide since the recertification audit. The automatic pump is connected to a standby Genset in case of power failure. Monitoring boreholes are sampled up and down stream of TSF to check for seepage. The Tinkiso river is 11 km downstream of the TSF and this is monitored on a monthly basis for free cyanide.

Community drinking water sampling boreholes at 9 villages upstream and downstream of the villages were below the detection limit of 0.005 mg/l, indicating that the beneficial use of groundwater is protected.

The plant is equipped with concrete bunds, a lined pollution control dam and concrete connecting trenches between bunds. The new continuation ILR plant is equipped with a concrete bund and pipe-in-pipe cyanide lines. The Electrolyte tank is placed inside a connected concrete bund.

There is no numerical standard established by the applicable jurisdiction for cyanide in groundwater. Groundwater sampling is carried out bi-annually at SGS Bamako for WAD cyanide analyses and analysis for free cyanide is undertaken monthly by the mine on-site.

The following are sample results for WAD cyanide since the last recertification: TSF boreholes - All of the results were below the detection limit of 0.005 mg/l, Old Heap Leach boreholes, the results since last recertification were reported to be all below the detection limit of 0.005 mg/l, plant boreholes, the results since last recertification were reported to be all below the detection limit of 0.005 mg/l, and samples of pit water were reported to be all below the detection limit of 0.005 mg/l. Seepage from the operation has not caused the cyanide concentration of the ground water to exceed that necessary to protect its beneficial use.

An incident occurred on 28th November 2018 potentially affecting ground water. The incident was investigated and the following publicly reported:

- Incident Description: In November, Siguiri's process plant's tailings pumping system experienced mechanical problems, resulting in slurry overflowing the tailings area containment bund. This tailings slurry progressed along low-lying areas of the process plant and came to rest just outside the plant's security fence but remaining within the mining lease area. After the solids settled out, a pool of water was formed. Unfortunately, the residual cyanide level in the tailings material was high enough to kill four birds and a cow that subsequently drank from the poisonous water.
- Corrective Action: The overflow from the plant was stopped and peroxide detoxification was instituted at the pooled water. A review of the drainage and spillage management infrastructure at the plant was undertaken. The capacity and function of the bund area drainage pumps were reviewed to ensure that overflows are prevented. The

erection of a 5km secondary perimeter fence was initiated to prevent domestic animals from grazing near the process plant.

Practice 4.7: Provide spill prevention or containment measures for process tanks and pipelines.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 4.7**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
All tanks within the processing plant are installed within bund areas (secondary containments) to contain spillage. All secondary containments are sized to hold a volume greater than that of the largest tank within the containment and any piping draining back to the tank, and with additional capacity (approximately 10%) for the design storm water event. There are no cyanide process tanks without secondary containment. The plant is equipped with bunds and sump pumps returning any spillage to the process. The Pollution Control Dam (PCD) procedure requires that the PCD must always be empty and stipulates the task to empty the dam after a spill. Spillage due to leaks on the cyanide storage tanks, pipes, valves, pump or flanges and large quantities of clean cyanide solution must be returned to the cyanide storage tanks.
It was observed during the site inspection that significant spillages are present in the various bunds and the pollution control dam. It was also observed that a concerted effort is being made to clean the PCD using mechanical means and bunds are being washed back into the process. The plant is going through a commissioning and ramp up period where various issues occurred resulting in spillage. It is expected by the plant staff that the ramp up problems will be minimised and spillage reduced to manageable levels in the short term. Clean up of spillage is continuing during this phase.
The leach and CIP tanks are installed on ring beams. The ring beams are covered with a bitumen/sand layer (40 - 70 mm thick) over the whole surface of the ring beam. The tanks form part of an on-going Risk Based Inspection (RBI) program. A groundwater monitoring program is in place and no elevated free cyanide levels were detected, indicating that there were no leaks from the tank bases.
It was confirmed during the site inspection that the new ILR eluate tank was installed inside an extended bund. The tank has a sloped bottom plate and leak detection slots are installed in the tank outside wall. The tank is installed on a concrete plinth and the installation is Code compliant.
The cyanide solution pipelines from the cyanide solution/dosing tanks are placed inside a launder that drains back to the cyanide mixing and storage bund prior to entering the area above the leach bund. The new extensions project team confirmed that the reagent strength cyanide line from the cyanide mixing to the ILR at the new mill was designed as a pipe-in-pipe system and a custom-designed Fischer system was used. The pregnant solution pipeline from the new ILR to the Gold Room is made of carbon steel. The pipe is

not installed with secondary containment as the cyanide levels are lower and PMS inspections and testing are used as a preventative measure.
The TSF pipeline is trenched and unlined paddocks are placed strategically at lowest points to collect any leaks. Daily pipeline inspections are conducted to check for leaks. The Tailings pipeline crosses one intermittent stream. The pipeline has been designed not to have any flanges on the section crossing the stream. The pipeline is placed on a concrete bridge for the crossing and there is a paddock either side of the bridge for any spills to drain into.
The reagent cyanide mixing and storage/dosing tanks are constructed of mild steel. The cyanide solution pipelines from the cyanide storage facility are made of HDPE (High-density polyethylene). Valves used are stainless steel ball valves. Process tanks (Leach and CIP tanks) are constructed of mild steel and process pipes are made of mild steel and HDPE. The new ILR facility cyanide pipes are custom-made of HDPE (the "Fisher system") and the ILR leach solution pipe to the eluate tank is made of carbon steel as per the AGA standards. The TSF tailings line is made of mild steel.

Standard of Practice 4.8: Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

X in full compliance with

The operation is
- ☐ in substantial compliance with **Standard of Practice 4.8**
- ☐ not in compliance with

Basis for this Finding/Deficiencies Identified:
The process plant facilities were audited during the previous certification audits and the new additions QA/QC (Quality Assurance/Quality Control) are detailed below. The Combination Plant Project was constructed during 2017/18 and commissioned in 2019. The additions consisted of a crushing section, Ball Mill Section, classification cyclones, Knelson Concentrators, Gekko Intensive Leach Reactor and an additional Electrolyte tank at the Gold Room. The project Engineering Construction Project Management is done by Batemans and the construction on site by Group Five. The Civil Construction was done by WBHO. Files were sampled from the comprehensive project filing system and it was confirmed that the files contained detailed quality control plans (QCP). It was confirmed during project file rooms inspection that comprehensive data packs, including civil and mechanical construction QA/QC records, both in hardcopy and DVD electronic copies, were kept for the complete project.
A project was recently completed at the Siguiri Gold Mine (SAG) to install a gravity decant penstock on the Tailings Storage Facility (TSF). The project was constructed in accordance with the contract specifications, working drawings, and the Quality Control Plan. A Report on the project concluded, "…The quality management system implemented by SAG provides reasonable assurance that standards were met and that the

gravity penstock will perform as designed, or later modified, to meet operational requirements."
The inspection report, "AngloGold Ashanti - Continental Africa, Structural Inspection and Maintenance Management (SIMM) Audit at Siguiri Gold Mine in Guinea, Report on the site inspections 28/05/13 – 07/06/13" was sighted and a list of items including a risk index was reviewed. The high risk area - SIG.08.ELTNK - Eluant Tank - Bunded Area was repaired and confirmed during site inspection. Risk areas under the Leach were identified and recommended action was to "Manage Routinely". This is done through NDT thickness testing. Quest Technical Services has undertaken tank thickness testing since the last certification and reviewed reports were satisfactory.
The RBI system is in place for the leach tanks and CIP tanks to ensure that the tanks are structurally sound and leaks in the bottom plates are picked up and repaired to prevent seepage of cyanide solutions into the ground water and soil. The Reliability Section does repairs on major equipment such as the tanks, as identified by the RBI inspections. Photos of repairs done on leach tank 3 were sighted.
The SAP planned maintenance system is in place and was reviewed. The system assists with maintaining the integrity of the cyanide facilities and ensures that the plant can continue to be operated within established parameters consistent with the Code's Principles and Standards of Practice.

Standard of Practice 4.9: Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and ground water quality.

X in full compliance with

The operation is
- □ in substantial compliance with **Standard of Practice 4.9**
- □ not in compliance with

Basis for this Finding/Deficiencies Identified:
Wildlife is monitored daily by the TSF staff and included in the daily log sheets. No cyanide-related wildlife mortalities were observed around the TSF and return dam since the last recertification audit.
Procedures for ground and surface water monitoring (including sample preservation, cyanide species sampled, and chain of custody procedures and the sample sheet) are in place. These were all developed by an environmental scientist. Maps were sighted which indicated the ground and surface water monitoring points up and down stream of the TSF, Plant and leach pad.
Samples of groundwater and surface water are taken bi-annually. The samples are analysed at the mine for free cyanide on a monthly basis. The groundwater samples are analysed on a quarterly basis for WAD and Total cyanide. WAD cyanide in the discharge to the TSF is sampled daily. Sample frequencies are deemed adequate by auditors to characterise the medium monitored.

5. DECOMMISSIONING: Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities

Standard of Practice 5.1: Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

X in full compliance with

The operation is
- □ in substantial compliance with **Standard of Practice 5.1**
- □ not in compliance with

Basis for this Finding/Deficiencies Identified:
There is a decommissioning procedure entitled, "Procedure for Decommissioning of Cyanide Facilities" which includes an implementation schedule for cyanide decommissioning activities. In addition, AngloGold Ashanti Continental Africa Regions Cyanide Code Guideline, rev 6, Section 7.2, specific requirements, will be implemented and adhered to for all cyanide-related work. The cyanide facility decommissioning procedure is reviewed annually.

Standard of Practice 5.2: Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

X in full compliance with

The operation is
- □ in substantial compliance with **Standard of Practice 5.2**
- □ not in compliance with

Basis for this Finding/Deficiencies Identified:
The mine has developed a detailed liability spreadsheet based on a number of studies conducted by the mine and is updated quarterly. The rates used are updated every 3 years by an external company. The latest update was by Jet Demolition in December 2018. The March 2019 liability spreadsheet included the following summary figures, which included a more detailed cost breakdown: - TSF and associated infrastructures including Wet Plant and leach pads, TSF (Pipelines and structures) - US$4.143 million, CIP Plant - US$4.572 million.
The Guinean Government does not require money to be physically put in an account or for financial guarantees to be provided. AngloGold Ashanti has established its own financial assurance system to provide for mine closure and cyanide decommissioning.
A Statement of Financial Strength (Report of factual findings - agreed upon procedures on financial information of AngloGold Ashanti) was prepared by the AngloGold Ashanti

Group Internal Audit Department (signed by Daneshri Naidu, Chartered Accountant and Senior Internal Audit Manager and by Thienus Coetzee, Senior Vice President: Group Internal Audit), and dated 23 May 2019. The statement is based upon the AGA Group IFRS annual financial statements for the financial years 2014 to 2018, using the specific criteria required by the ICMI. (The statement was prepared using the International Standard on Related Services (ISRS 4400) and as described in the U.S. Code of Federal Regulations, 10 CFR 30, Appendix A.) Daneshri Naidu was verified as a Chartered Accountant registered with the South African Institute of Chartered Accountants since 2006. The statement confirms the company's self-financing ability to undertake cyanide decommissioning commitments.

6. WORKER SAFETY: Protect workers' health and safety from exposure to cyanide.

Standard of Practice 6.1: Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce or control them.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 6.1**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
The site has 80 cyanide specific operational and maintenance procedures. The procedures include: - list of equipment / PPE / material required for the task; a mini risk assessment is required and the form is signed by the person doing the work and the supervisor, and, where appropriate, a Buddy must be used.
A corporate Tailings Management Framework lists commitment (including freeboard) is in use and includes ICMI Code requirements. A Regional Tailings Management Code of Practice West Africa Division is also in place. The Operational Manual for the TSF (Tailings Storage Facility) specifies the following: Freeboard as 2m below spillway elevation (lowest point on dam wall), and maximum storm event - 1:50 year 24 hour storm. The March/April 2019 Surveillance Report stated that with a few exceptions, the TSF is being constructed within the set limits and specifications, and mostly to best practice. All tanks, bunds, ponds, impoundments, pipelines, valves and pumps in the plant and on the TSF are listed on the SAP Planned Maintenance System (PMS) and are inspected on a regular basis. SAP system PM inspections include external annual thickness tests for cyanide make up and storage tanks. The Leach and CIP tanks on ring beams form part of the Risk Based Inspection (RBI) program and on-going inspections reports, thickness testing and breakdowns and repairs for all tanks were sampled and reviewed. Wildlife inspections are carried out daily. Operational inspections are carried out daily and safety and health inspections monthly. The plant is equipped with bund areas, sumps and sump pumps to return any spillage to the process tanks. During the

electronic review of the SAP PMS, a full list of all generators on the site was sighted and PM records found to be complete.
A change management procedure covering health, safety and environment is in place and operational and examples of major change management exercises. During compilation or revision of a procedure, the workers are consulted for their input. This is an informal process and was confirmed through interview. Monthly Health & Safety Meetings are held to discuss safety related issues. Everybody working on the plant attends this meeting (Engineering and Processing) and this is an opportunity for worker input on Health and Safety procedures. Toolbox meetings / talks are held for every shift and topics for toolbox talks are prescheduled for the year. The schedule for 2019 was sighted which includes safety principles, safety attitude, chemical handlers, hazard recognition, A-hazard reporting, and permits to work. It was confirmed during interviews that toolbox talks are held and feedback is given to Supervisors who then respond or take up the issue with the next level of management. The new plant extensions required new procedures and review of existing procedures. The ILR training register involving the appropriate workforce in training to operate the new ILR plant was sighted and is viewed as considering worker input.

Standard of Practice 6.2: Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 6.2**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
The pH in the mixing tank (prior to adding the first bag of solid cyanide) must be minimum 10.5. If the pH of the slime drops below 10.5, an alarm will sound and display on the SCADA system. The cyanide delivery pumps should be stopped until the pH at the addition point has been adjusted to above 10.5. Spillage due to running water during off-loading can be pumped to the pre-leach via barren solution tank after establishing that the pH exceeds 10.5.
There are currently 57 x PAC 7000 personal HCN monitors used on the plant and tailings area. 10 x X-am 7000 multi gas personal monitors are used on the plant. 15 x Polytron fixed HCN gas monitors are installed on the plant. A Pac 7000 HCN Movement File for 2017, 2018 and 2019 was reviewed. The form records the name, company number, serial number of instruments, date of issue, time of issue, status of the instruments, signature, time in, status in, signature in.
Hotspot surveys are conducted weekly at the following places: ILR Gekko 1 and 2 , CIP Tanks, Leach Tanks, Reagents Mixing Area, Met Lab, Pregnant solution Tanks area, Trash Screen Area, Eluate tank area, Tailing Screens, Tailing Tank, Mill Platform close to ILR, Batch tank area, tailings pumps area, 06-pump-08, 06-pump-09, area between

CIP and Leach, elution area. The high areas for the survey dated 20 April 2019 were tailings tank, 4.6ppm, batch tanks, 4.6ppm, and CIP tanks, 4.6ppm. For the survey dated 24/7/2017, the highest readings are 4.2ppm at the tailings tank and 3ppm at the CIP tanks. Manufacturer, Dräger, calibrates the HCN gas monitors 6 monthly, as per manufacturer's recommendation, on contract. The Dräger Service Reports dated 23 to 28 April 2018, and 10 to 15 December 2018 covering all the gas monitors on the plant were sighted and reviewed. The 2019 calibrations are due in June 2019.

Monitors are set to alarm at 10 ppm HCN gas on an instantaneous basis and 4.7 ppm continuously over an 8 hour period.

Safety equipment such as safety showers, low pressure eye wash stations with diffusers, and fire extinguishers are numerous and adequately signposted using both English and French. Although French is the language of the workforce, the working language of the site is English. The extensive use of appropriate signage, in English and in French, covering no smoking, open flames or eating and drinking, and that, if necessary, suitable personal protective equipment must be worn, was sighted. MSDSs (Material Safety Data Sheets) in English are provided in areas where cyanide is managed, but French MSDSs are also available. Pipes containing reagent strength cyanide are coloured purple, the cyanide reagent tanks are red with a purple band. Direction of flow is indicated on the reagent strength cyanide pipe lines and launders. Training includes the identification of high strength cyanide tanks and pipes.

Colorant is not added to the mixing process and TaeKwang does not add dye to the briquettes. This requirement will be applied from 1 July 2019. When the new contract amendment is negotiated before 1 January 2020, the dye requirement will be included appropriately. As this audit was undertaken May 2019, this section has not been audited.

Showers and fire extinguishers were observed by the auditors during the site visit. Weekly Inspection checklists and documentation for the safety showers were sighted and files for 2017 (January to June 2017 and July to December 2017) and 2019 (January to May 2019) were sampled. Fire extinguishers are inspected and maintained and inspection checklists for 2017 and 2019 (January to April) were sampled.

Accident and incident reporting and investigation procedures, based upon the site safety reporting requirements, were found to be in place and effective. There was a Cyanide gas inhalation above tank 1 and 2 on 20 July 2018, during the construction of the Siguiri combination project. A welder started feeling dizzy and vomited. Two more workers involved were all taken to the site Koron Mine Hospital. Two workers were released the same day and one the following day. The contractor employees were inducted in the cyanide emergency action, but went to the G5 offices instead, and from there they were taken to the mine's Koron Hospital on site. There was a list of 30 remedial actions, following the investigation to ensure that procedures would be followed in future. These included: -

-Additional Cyanide awareness refresher training organised for all the G5 contractor personnel working inside the plant,

-Use of the personal Dräger HCN gas monitors was made compulsory all the time while working in cyanide vicinity and strictly monitored, and

- The Contractor was mandated to ensure that all the employees are familiar with Cyanide Emergency Procedures.

Standard of Practice 6.3: Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 6.3**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
The operation has water, oxygen, resuscitators, antidote kits (Tripac-Cyano - (4 x Sodium Thiosulphate IV; Sodium Nitrate IV and 6 x Amyl Nitrite No 4 boxes; and 4 x bottles of 1 litre Sodium Thiosulphate 5% aqueous solution), portable radios, cell phones, and alarmed safety showers for communicating emergencies. Mandown alarm stations are also available. There are 8 first aid cabinets placed at strategic locations in the Plant and the TSF. The cyanide first aid equipment in cabinets was sampled and inspected and the cabinets found to contain cyanide PPE, respirators and canisters, Oxygen, SCBA (Self Contained Breathing Apparatus) sets, PVC (Polyvinyl chloride) suits, rubber gloves, and rubber boots. The cyanide antidote is stored in fridges inside the cabinets.
Antidote expiry dates are monitored during cyanide first aid inspections. One large batch of cyanide antidote kits is ordered via AGA South Africa and all kits are replaced at once. It was observed during the site inspection that all antidote kits are stored in fridges as per the manufacturer requirements. It was confirmed during inspections that current antidote expires in Nov 2019.
The emergency plan involves a primary response from the Emergency Response Team (ERT) on the plant. The Paramedic and Paramedic vehicle (located at the Heap Leach clinic 5 minutes away and manned 24 hours per day), together with the ambulance, will provide the second stage stabilisation and evacuation to the fully equipped mine hospital in the Koron mine village, 13.5 km from the plant. The Patient will have been decontaminated by the ERT. The fully equipped, Koron mine hospital is manned 24 hours per day. The staff includes 8 doctors trained in cyanide emergencies, with a medical doctor on standby in the village after hours. All staff at the clinic and the hospital undertake bi-annual or annual cyanide induction training, in addition to specific medical training. Staff at the clinic and hospital take part in mock drills to ensure they are aware of their role in cyanide emergencies.
If there are any chronic conditions that the hospital is unable to treat the patient may be transferred to a hospital in Conakry depending on the care required and at the discretion of the Hospital Doctor. The Conakry hospital (Clinique Ambroise pare) has a contract with AGA and staff have been trained in cyanide first aid by a team from Siguiri mine. A letter from the clinic, dated 10 May 2019, was sighted which confirmed that the clinic is able to receive cyanide patients and has the trained staff to respond to cyanide patient needs.
There is an emergency procedure for access of an ambulance in the event of a medical emergency. Emergencies are announced on the open radio channel so that the whole

plant is aware of an emergency occurring, including the security control room, to ensure that the ambulance has free access to the Plant.
Cyanide equipment is regularly checked and tested and mock drills are held regularly on site. Man down drills are used to assure that emergency teams and the medical facility are competent and equipped to handle emergencies.

7. EMERGENCY RESPONSE Protect communities and the environment through the development of emergency response strategies and capabilities.

Standard of Practice 7.1: Prepare detailed emergency response plans for potential cyanide releases.

X in full compliance with

The operation is

□ in substantial compliance with **Standard of Practice 7.1**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
There is a mine wide Emergency Response Plan in place and a Plant specific, cyanide "Emergency Preparedness and Response Plan". The plant specific cyanide plan will default to the mine wide emergency plan on mine wide issues such as mine evacuation and media communication and any community related issues. The Plan includes specific procedural responses to a range of site specific cyanide failure scenarios. The Plan also describes specific response actions, as appropriate for the anticipated emergency situations, such as clearing site personnel and potentially affected communities from the area of exposure, use of cyanide antidotes and first aid measures for cyanide exposure, control of releases at their source, and containment, assessment, mitigation and future prevention of releases

Standard of Practice 7.2: Involve site personnel and stakeholders in the planning process.

X in full compliance with

The operation is

□ in substantial compliance with **Standard of Practice 7.2**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
The workforce was initially involved in the initial compilation (baseline) of the Emergency Response Plan in 2007. Each department was involved in separate meetings

to get their input. Subsequent revisions only involved the HODs comments and inputs. Once updated, the employees are trained on the content of the response plan.
The plant provides the opportunity for input and information to the community on the Plan through dialogue discussions with the community. No local or external agencies are involved in the Plan and the Koron mine hospital, Heap Leach clinic and paramedics are involved through mock drills and other communications. Local response agencies are not involved in cyanide emergencies.

Standard of Practice 7.3: Designate appropriate personnel and commit necessary equipment and resources for emergency response.

X in full compliance with

The operation is
- □ in substantial compliance with **Standard of Practice 7.3**
- □ not in compliance with

Basis for this Finding/Deficiencies Identified:
The ERP details responsibilities for the Emergency Response Controller and alternates and details management roles and responsibilities. There is a list of Emergency Response Team and staff who are trained for each shift and respond to emergencies. The emergency equipment inventory was checked and site inspections confirmed availability and readiness. The Plan includes contact references (telephone, cell phone, etc) of internal and external resources for the various scenarios, particularly with detail where external resources and skills might be needed. Periodic drills involving internal and external stakeholders ensure that roles and responsibilities are understood and clearly implemented. No outside responders are used during emergency situations, Communities do not take part in the emergency responses, but are given information on cyanide.

Standard of Practice 7.4: Develop procedures for internal and external emergency notification and reporting.

X in full compliance with

The operation is
- □ in substantial compliance with **Standard of Practice 7.4**
- □ not in compliance with

Basis for this Finding/Deficiencies Identified:
The Emergency Response Plan includes details for appropriate emergency notification and reporting (internal and external) and the call-out procedure and contact information lists which are updated regularly. Internal and external communication (including the Media) is also dealt with in the Crisis Management Plan.

Standard of Practice 7.5: Incorporate into response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 7.5**

 not in compliance with

Basis for this Finding/Deficiencies Identified:
The Emergency Response Plan covers clean-up, remediation and a neutralisation methodology. The use of neutralization processes and materials is clearly covered, as is disposal of contaminated materials. If required, drinking water can be supplied to the villages. The use of cyanide treatment chemicals such as Sodium Hypochlorite, Ferrous Sulphate and Hydrogen Peroxide use is prohibited in surface water unless there is a treat to human life. However, the chemicals may be used in terrestrial situations. Treatment chemicals are stored according to compatibility guidelines for reagent chemicals and used according to the manufacturer's recommendations detailed in the MSDS. Emergency sampling is covered in the procedures.

Standard of Practice 7.6: Periodically evaluate response procedures and capabilities and revise them as needed.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 7.6**

 not in compliance with

Basis for this Finding/Deficiencies Identified:
The ERP includes the requirement for review and revision on a two yearly basis or after an actual cyanide emergency or a mock drill which identified deficiencies in the plan under the section entitled Plan Maintenance and Change Management. Drills incorporate identification of problems, action and follow up on completion.
Drills identified a weakness in communications and an attendance register was sighted for refresher training for call out procedures for control room operators.
The emergency response plan was revised twice in 2018 due to the new combination plant activities.

8. TRAINING: Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

Standard of Practice 8.1: Train workers to understand the hazards associated with cyanide use.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 8.1**

 not in compliance with

Basis for this Finding/Deficiencies Identified:
Cyanide hazard recognition training is given to all site personnel who may encounter cyanide. This is covered during the cyanide induction. The induction includes contractors, and Security, as applicable. The cyanide induction presentation covering cyanide hazard awareness and cyanide first aid was viewed.
The training matrix covering cyanide induction and refresher training matrix, which includes Process, Engineering, and Security was sighted. Temporary workers are not included in the matrix, but fill in an attendance register. The attendance registers for 2019 were sighted and records are available from 2011.
Refresher training is given after returning from leave, depending on leave cycles, which could be every 6 months or every 12 months. It was confirmed that refresher training was carried out through checking the matrix.
All Training records are kept permanently as per the practice of the processing Plant. It was confirmed the records are in place for the interviewees, who were used as a sample.

Standard of Practice 8.2: Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 8.2**

 not in compliance with

Basis for this Finding/Deficiencies Identified:
Training activities / tasks are detailed in the job description of each position. The job description of Reagent Operator was sampled, listing functional Activities / tasks, but not specific SOP (Standard Operating Procedure) -based training requirements. Task training is done, based on the updated SOP's. A badge control procedure is used for access to the plant. The Training Officer must sign off on completed cyanide training before employees are allowed into the plant to work with cyanide using a badge. A list of SOP's covering all the activities in the operation was reviewed. The auditors confirmed that the SOP documents include the safe way to do the task and the measures to ensure worker safety and protect equipment from damage.

The training matrix sighted covers cyanide induction training only. The Supervisor is responsible for task or SOP training. He will decide, based on the job description, what task training he needs to give to the staff member.
The training elements are included in the SOP's. The complete list of SOP's describing all the tasks for operating the process plant safely were sighted and reviewed.
Refresher training is given when a need is identified by planned task observations (PTOs) or incidents, which will trigger review for refresher training. Written tests are conducted, including pictogram tests, where appropriate. The PTO files for 2017, 2018 and 2019 were sighted and PTOs from each year were sampled and reviewed.
All Training records are kept permanently as per the practice of the processing Plant. It was confirmed the records are in place for the interviewees, who were used as a sample.

Standard of Practice 8.3: *Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.*

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 8.3**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
All staff are trained in basic cyanide awareness which requires reporting and moving away from the scene. An emergency response team is in place for dealing with cyanide releases. All staff are also trained in basic cyanide first aid. An emergency response team is in place for dealing with cyanide decontamination and first aid. The designated, shift based, plant emergency response teams (ERT) are trained in SCBA, Oxy-Viva, Basic Cyanide first aid, cyanide emergency first aid training, personal gas monitors, ERT team specific training, Fatigue Management training, and Buddy system training. Continuous refresher training takes place for the ERT. No local responders are involved in any emergency responses. The only " outside " responder would be the Koron hospital which is a Mine facility and which is involved in all full cycle drills and whose staff, as Mine Employees, received all cyanide awareness training.
Mock training drills are conducted involving the ERT's and the Training Officer is involved in the planning of all drills. Drill reports include problem areas identified and corrective action recommended. Recommendations are included in an action plan and followed up.
All Training records are kept permanently as per the practice of the processing Plant. It was confirmed the records are in place for the interviewees, who were used as a sample.

9. DIALOGUE: Engage in public consultation and disclosure.

Standard of Practice 9.1: Provide stakeholders the opportunity to communicate issues of concern.

X in full compliance with

The operation is □ in substantial compliance with **Standard of Practice 9.1**

□ not in compliance with

Basis for this Finding/Deficiencies Identified:
Dialogue meetings are two-way dialogue sessions involving both dissemination of information and the answering of questions on cyanide.
The Mine has established a network of outreach centres, currently in 5 villages (Kintinian, Fatoya, Setiguia, Balato, and Boukariya). The outreach centres are manned by AGA community agents who are fluent in the local language. At least one of the agents in the outreach centres is literate in French. The local language is verbal only therefore any writing is in French as the written language for the country. The 5 villages are used as a base for communicators to move out to villages up to 5 km further out.
The villagers are able to lodge complaints at the outreach centres. The AGA community agents are trained to manage complaints and complete the necessary records. An example of feedback from Communities was the fear that after the rains, water flowing from the direction of the TSF was contaminated with cyanide. The Mine, in collaboration with provincial authorities, took samples and confirmed the absence of cyanide. Further negotiations with the communities resulted in compensation for the land damaged by storm water flows.
There is constant informal daily interaction with various groups at the villages. The 4 local radio stations are used to publicise mine activities e.g. the handing over of boreholes.
Communication with the Community also includes Sensitisation campaigns. Environment Department members are present where water sampling and results are discussed and reported back to the Community. Cyanide is explained during the sessions.
A Report on dialogue with the Boukariya community on 28 March 2019 was sighted. Community representative included the President of the district, the leader of the Red Cross and the President of the youth. Questions included neutralisation of cyanide poisoning, recognition of cyanide poisoning symptoms, how to react to a cyanide spill on the road, and "why are you here?".
There was communication with the military outside the mine (attended by 36 military personnel) on 14 March 2019. Questions asked included effects of burning cyanide packaging, spillages in the TSF and eating while they were on guard, does cyanide effect life expectancy, and what precautions does the Mine take to work safety with cyanide.
On the 11 March 2019, a dialogue was held with Balato community junior and senior secondary schools which consisted of teachers and 86 scholars. Questions asked included: - what is the role of cyanide in gold extraction, what is the difference between natural and industrial cyanide, consequences of a cyanide spill to the environment, uses of cyanide, which other gold mining companies uses cyanide and what products are used to assist the victim of cyanide.
There is also an annual communication plan in place.

Standard of Practice 9.2: Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 9.2**

 not in compliance with

Basis for this Finding/Deficiencies Identified:
Dialogue meetings are two-way dialogue sessions involving both dissemination of information and the answering of questions on cyanide.
The Mine has established a network of outreach centres, currently in 5 villages (Kintinian, Fatoya, Setiguia, Balato, and Boukariya). The outreach centres are manned by AGA community agents who are fluent in the local language. At least one of the agents in the outreach centres is literate in French. The local language is verbal only therefore any writing is in French as the written language for the country. The 5 villages are used as a base for communicators to move out to villages up to 5 km further out.
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of cyanide, which other gold mining companies uses cyanide and what products are used to assist the victim of cyanide.
There is also an annual communication plan in place.

Standard of Practice 9.3: Make appropriate operational and environmental information regarding cyanide available to stakeholders.

X in full compliance with

The operation is

☐ in substantial compliance with **Standard of Practice 9.3**

☐ not in compliance with

Basis for this Finding/Deficiencies Identified:
A mine quarterly newsletter has been produced and is used to assist in communicating information to the local communities by the outreach centres. The French newsletters for April 2019, Quarterly newsletters for Q2, 3 and 4 2018 in French, and Q1 2019 in French and Q1 2018 in English were sighted. The newsletters are distributed to mine workers, who live in the surrounding communities and to the local authorities, regulators, etc.
The Mine has established a network of outreach centres, currently in 5 villages (Kintinian, Fatoya, Setiguia, Balato, and Boukaria). At least one of the agents in the outreach centres is literate in French. The local language is verbal only therefore any writing is in French as the official language for the country. The literacy levels are low in the area and thus the news letters are used as a script to translate and communicate in the local language.
A Group wide Workforce Management Reporting System (WMRS) is used as an electronic reporting platform for all safety and environmental incidents, inspections and deviations. Incidents are classified as Minor, Moderate, High, Major and Extreme.
The AGA Annual Sustainable Development Reports for 2017 (https://www.anglogoldashanti.com/sustainability/reports/#2017) and 2018 (http://www.aga-reports.com/18/sdr#home) were reviewed to confirm references to cyanide incidents in the AGA Groups.
Siguiri has not had any significant cyanide incidents (human exposure) in the 3 years since certification that required reporting on a public level and thus no health-related reports were made in the AGA annual reports since the certification in 2016.
Siguiri has reported one environmental incident in the AGA Annual sustainable Development Report for 2018:
Incident Description: On 28 November 2018, Siguiri's process plant's tailings pumping system experienced mechanical problems, resulting in slurry overflowing the tailings area containment bund. This tailings slurry progressed along low-lying areas of the process plant and came to rest just outside the plant's security fence but remaining within the mining lease area. After the solids settled out, a pool of water was formed. Unfortunately, the residual cyanide level in the tailings material was high enough to kill four birds and a cow that subsequently drank from the poisonous water.

- Corrective Action: The overflow from the plant was stopped and peroxide detoxification was instituted at the pooled water. A review of the drainage and spillage management infrastructure at the plant was undertaken. The capacity and function of bund area drainage pumps were reviewed to ensure that overflows are prevented. The erection of a 5km secondary perimeter fence was initiated to prevent domestic animals from grazing near the process plant.