INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Cyanide Code Compliance Audit Gold Mining Operations

Recertification Summary Audit Report

AngloGold Ashanti Siguiri Gold Plant Guinea

28th January – 2nd February 2013

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
Name of Responsible Manager:	Johann Meyer, Process Manager
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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 850km from the capital city of Conakry. The nearest major town is Siguiri (approximately 50,000 inhabitants), located on the banks of the Niger River. AngloGold Ashanti has an 85% interest in the operation, with the balance 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 plant was built.

On the CIP plant, ROM ore is reduced by a toothed roll crusher and then transported overland to a mill feed stockpile. The crushed ore is withdrawn at a controlled rate, via apron feeders, and conveyed for treatment through a scrubber and conventional ball milling circuit. Mill product is pumped from a common sump through a cluster of 660mm cyclones with the underflow reporting to a 6MW Ball Mill. A bleed of the cyclone underflow is treated in a gravity circuit incorporating a Knelson concentrator and an Intensive Leach circuit which contributes about 25% of the final gold produced.

Overflow from the cyclone cluster gravitates to a leach train consisting of ten tanks where lime, cyanide and hydrogen peroxide are added to effect gold dissolution. Slurry from the leach circuit is then fed into a carbon adsorption train, via a tramp screening step, in between the two tank farms. Carbon is recovered upstream of the adsorption train and eluted through a 12 tonne AARL elution circuit. Pregnant liquors from both the ILR and elution circuits are electrowon in separate cells at the gold room, with the resultant cathode sludge being dried, calcined and smelted. Eluted carbon is regenerated in a diesel fired kiln and returned to the adsorption circuit. Tailings slurry discharges from the last adsorption tank and gravitates to tailings screens for fugitive carbon recovery. Screens underflow then drop into a tank from where the slurry is pumped into a one-sided embankment tailings dam situated 8km south of the plant.

Auditor's Finding

This operation is

X in full compliance

☐ in substantial compliance

☐ not in compliance

with the International Cyanide Management Code.

This operation has not experienced compliance problems during the previous three year audit cycle.

Audit Company: Eagle Environmental

Audit Team Leader: Arend Hoogervorst

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Names and Signatures of Other Auditors:

Name : Dawid M. L Viljoen Signature _____ Date: 1/7/2013

Dates of Audit: 28th January – 2nd February 2013

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Gold Mine Operations and using standard and accepted practices for health, safety and environmental audits.

Siguiri Gold Plant

Facility

Signature of Lead Auditor

4/7/2013

Date

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 Supply and Transport Contract was originally with Australian Gold Reagents (AGR) and was Code compliant. From 28 September 2011, it was changed to Samsung, a certified Cyanide Code consignor, who obtains cyanide briquettes from cyanide producers, TaeKwang (ICMI certified on 18 March 2011) and Tongsuh (ICMI certified on 7 March 2011). 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 signed Contract for supply and transportation of sodium cyanide briquettes between Samsung and AngloGold Ashanti 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. There is also a Samsung Transport Management Plan in place which covers normal, abnormal and emergency situations during cyanide transportation.

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 West Africa supply chain was certified on 12 July 2011 covering the complete supply chain from the producers in Korea to the site in Siguiri, Guinea.

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:
The facilities used up to September 2012 were designed by SENET and constructed in 2005. The designs and drawings were reviewed and found to code compliant during the certification audit in March 2010. Upgrading of the cyanide facilities commenced following a change management and risk assessment process. The cyanide dosing tank was repaired and inspected and a 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, 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 detailed basis for ensuring that cyanide off-loading, storage and dosing meets specific AGA company cyanide design specifications.
Mixing tanks and storage tanks are equipped with electronic level indicators linked to the SCADA system. Pumps are interlocked with the level indicators stopping the pumps at defined levels. Mixing and storage tanks are located on concrete surface within bunds. 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. The dry cyanide solid store is cyanide purpose designed with an open end and two open access / ingress sections at the opposite end of the store, creating a through flow of ventilation. The roof is equipped with a ventilation facility. The concrete floor is equipped with drains to direct water away from the boxes to the mixing tank sump via a separate sump. The floor is slightly elevated to prevent water ingress from outside. The store is located inside a security fence with access control. The facility itself is fenced and all gates are locked with access control and a key register. The facility is 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:
All cyanide packaging is incinerated on top of the adjoining disused heap leach facility and does not leave the mine site. The cyanide offloading, sea container de-stuffing and mixing procedures are detailed, spelling out PPE requirements, use of a buddy in the process, and clearly sequenced to prevent spillages and accidental releases during mixing and transfer processes. The procedure includes the requirement to hose the area after every mixing to clean any minor cyanide spills that might occur.

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 commitments (including freeboard) and includes ICMI Code requirements. A Regional Tailings Management Code of Practice West Africa Division is in place. The Annual Tailings Storage facility (TSF) and heap leach audit reports of 2011 and 2012 concluded that "the TSF is in a stable condition with no instability" in both reports. All tanks, bunds, pond, impoundments, pipelines, valves and pumps in the plant and on the TSF are listed on the EMESA Planned Maintenance System (PMS) and are inspected on a regular basis. EMESA system 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 (using" API Recommended Practice 580 Second Edition, November 2009" as a guideline) The original schedules were not strictly adhered to due to abnormal failures of tank agitator shafts and blades resulting in tanks being off-line. However, the breakdown opportunities were utilised to appropriately conduct the RBI on the affected tanks. Wildlife inspections are carried out daily. Inspection frequencies are determined by experience, consultation with end users, supplier recommendations and FMECAs (Failure Mode Evaluation Critical Analyses). 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. Spillages from the tailings tank drain into the pollution control dam, designed to contain the volume of spillage. In addition, emergency power generators (from the second power station) will kick in after 10 minutes to restore power to the plant emergency equipment. The Mine generates its own power and maintenance and operation is undertaken by done by Wartsila (contracted on site power generation specialists).

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 ore fed to the plant is highly variable and the cyanide consumption was determined for each ore type. Cyanide optimisation test reports were undertaken in 2011 and 2012 and these cover the various ore types and cyanide dosing adjustments using the test results and ore mixes as well as reviewing operational results and conditions. A Monthly Mining plan predicts ore mixes. There is daily contact between the Process Manager and the Mine Manager, looking at expected ore type delivery to the plant. Initial test work reports were done for the original plant design. The further test program included the effect of air, peroxide and oxygen addition and this concluded that oxygen and peroxide usage gives better recovery rates. The test work results are also indicating the need for additional gravity gold recovery capacity which is planned for construction.
The report, "Cyanide Process Control - Siguiri Gold Plant" covers the current (at the time of the report) control and the new (Currently commissioned) mixing and dosing plant. The report made recommendations on control principles which were considered. Recommendations on pH control which affected cyanide addition control were also made by technical staff at AngloGold Ashanti's Continental Africa Region Corporate Office.
The use of the TAC 1000 and Cynoprobe for automatic control, linked to variable speed hose pumps was verified. pH Control was changed from feeding solid lime to the mill feed to adding slaked lime to the leach. Cyanide feed dosing settings are based on daily operational results and test work results. Performance graphs of free cyanide levels in leach before and after commissioning of the new cyanide dosing system and changes to pH control indicated better cyanide dosing control.

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 GoldSim computerised probabilistic water balance model was implemented and is being optimised using current data for the TSF. The model is updated monthly in the rainy season and two monthly during the dry season. The plant forms part of the GoldSim TSF model in terms of residue out to TSF and return water back to plant. A more detailed spread sheet-based water balance is used to calculate the Pollution Control Dam (PCD) freeboard requirements. The design storm event is included in the stochastic calibration of the rainfall used in the model. Precipitation data was taken from the 9 years of data available from measurements taken at the old Heap leach, Koron village, and the TSF.

Evaporation data came from GoldSim set up and calibration. The TSF freeboard is in excess of 3m and can accommodate any rainfall event during the wet season. A 1.0% probability was predicted of reducing the freeboard to below 1.55m with no pumps running on the decant through outages. The GoldSim model is used to check the design freeboard and pool operating levels against the latest rainfall patterns. The Regional Geotechnical Engineer reviews freeboard parameters using rainfall data and the model.

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 tailings discharge WAD cyanide levels were measured from 1 January 2010 to 30 January 2013 and values average between 35 to 45 ppm WAD CN with no exceedances being noted. During the period 25 December 2010 to 15 April 2011, the WAD analyser was off-line due to instrumentation failure, and free cyanide was measured on the daily spigot samples as a back-up for WAD cyanide analyses. The ore sources do not contain significant copper minerals and it is thus possible to use free cyanide as an indicator value for WAD cyanide. The site keeps records of the WAD and free cyanide on every spigot sample and the overall average difference between WAD and free cyanide is 16 mg/l for the 3 years since certification. The average difference between WAD and free cyanide 3 months before and 3 months after the period the WAD analyser failed is15.5 mg/l. Applying this difference and extrapolating the free cyanide to WAD cyanide for the above period indicated that the WAD cyanide did not exceed 50 mg/l and varied between 40 and 45 mg/l. The reason for the length of time the analyser was off-line was the difficulty of getting a Technician and spares to the remote site of Siguiri, in Guinea. A second standby WAD analyser was purchased and commissioned following the failure of the on-line unit. As the TSF is operated at less than 50 ppm WAD cyanide, no special measures are needed to protect wildlife. The TSF is fenced with locked gates to control entry of people and livestock to the area. Heap leach operations have terminated and leach ponds rinsed and decommissioned previous to the company becoming a signatory to the Code. No cyanide related bird mortalities have been reported since certification indicating effective management.

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:
There is no direct or indirect discharge to surface water. Surface water samples from streams sampled during the wet season, when they flow, show all values were below 0.01 ppm total cyanide.

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 and the water is returned to the plant via the return water system. The TSF dam main wall is also fitted with a curtain drain. A new seepage collection dam was commissioned to reduce risk of seepage. Boreholes are drilled around the TSF and the plant and sampled quarterly and analysed for Free cyanide and other elements. Free cyanide values are <0.01mg/l which is the limit of detection. No beneficial uses have been identified and no legal limits are required by the legislation. No backfill is used and there have been no seepages that have increased cyanide concentrations.

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:
Return water tank overflow will drain back to the TSF, which acts as a spill prevention and secondary containment. All tanks on the plant are installed within bund areas to contain any spillage. 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 appropriate tanks form part of a Risk Based Inspection 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. The new cyanide

mixing and storage tanks are installed inside a bund on plinths. The Cyanide storage and make-up tanks are placed on solid concrete foundations. The plant is designed with sumps and pumps returning all spillage back to the process. Spillages from the tailings tank are draining into the pollution control dam, which is designed to contain the volume of spillage. The new cyanide facilities cyanide pipelines are placed inside a launder draining back to the cyanide mixing and storage bund or to the leach bund. All slurry pipelines are covered by the shiftly inspections and EMESA PMS system. Slurry lines containing cyanide solutions are routed over competent secondary containment bunds. The TSF pipeline is trenched and unlined paddocks are placed strategically at the lowest points to collect any leaks. Flow meters are installed on the TSF line at the plant and the TSF to assist identifying significant leaks. An interlock will stop pumps when the system detects significant differences in flow rate caused by a leak. The slurry pipeline thickness is tested as per the EMESA PMS system. Daily pipeline inspections are also conducted. TSF Pipelines are constructed of steel and HDPE inside the TSF footprint. The new reagent cyanide tanks are constructed of mild steel and cyanide solution pipelines from the new cyanide facility are made of HDPE. Valves used are stainless steel ball valves are used and process tanks are constructed of mild steel and process pipes are made of mild steel and HDPE.

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 site established new cyanide facilities, commissioned in September 2012, which consisted of a solid cyanide store, a mixing tank, two storage / dosing tanks and the required infrastructure, secondary containment, pipes and spillage sumps and pumps. A decontamination bay was 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 detailed basis for ensuring that cyanide off-loading, storage and dosing meets specific AGA company cyanide design specifications. Other facilities on-site were found Code compliant at the certification audit and there was no change to this finding. Quality control checks and records were followed in accordance with the AngloGold Ashanti Clerk of Works / Site Inspector Guide for Civil and Structural Engineering Works Feb 2010. A detailed file containing the QA/QC test records for cube tests, compaction tests, tank reports was reviewed and

sampled. The records showed that facility construction was monitored by appropriately qualified persons.
With respect to the TSF, geotechnical inspections by the Geotechnical Engineer Continental Africa Region are conducted quarterly and quarterly reports since certification were sampled. An Annual TSF and heap leach audit reports for 2012 and 2011 by a Geotechnical Consultant concluding that the TSF is in a stable condition with no instability sighted. A technical note on the feasibility of an upstream raise of the Siguiri TSF dated 12 Oct 2011 confirmed that there would be no stability problems in raising the main wall by means of upstream construction.
In the plant, maintenance inspections are conducted as per the EMESA PMS system, and covering the cyanide facilities. The Engineering Manager stated in a report that, " I Verify the equipment stated above (plant and its structures) is fit to continuously operate as currently operated". The next structural inspection was reported to be scheduled for March 2013.

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. Daily operational bird mortality inspections are in place and TSF inspection reports for 2010 and 2012 were sampled. Incidents are investigated by the environmental department. An Environmental Monitoring Plan is in place, as are procedures for environmental monitoring (including sample preservation, cyanide species sampled, and chain of custody procedures and the sample sheet) of surface water and borehole water. These were all developed by an environmental scientist. 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:
Plant closure is planned In 24 years and mine closure plan and estimate is in place which includes cyanide plant demolishing and rehabilitation. There is also a decommissioning procedure entitled, "Procedure For Decommissioning Of Cyanide Facilities" which includes an implementation schedule for cyanide decommissioning activities. The mine closure plan is reviewed annually, and cyanide facility decommissioning procedure 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:
Mine closure plan includes plant closure and decommissioning of cyanide equipment by a third party. Mine closure estimate was prepared by third party estimators. The operation has established a financial assurance mechanism within its own accounting system. Sighted latest Statement of Financial Strength (including financial information, and ratios and financial test requirements) covering 2011 prepared by accounting firm, Ernst and Young, for AngloGold Ashanti's Continental Africa Region operations confirming the company's self-financing ability to undertake cyanide decommissioning commitments. 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. The report was prepared by a registered Auditor, Chartered Accountant, and Director of Ernst and Young.

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:
There are 80 procedures are in place covering operational as well as maintenance of cyanide facilities. Each procedure states the required PPE for the task at hand, including the requirement for pre-work inspections. A Code Of Practice for the TSF is in place using the Tailings Management Framework and there is a Siguiri Tailings Management facility revised operating manual of 2010. TSF Engineering procedures are covered under Siguiri Gold Plant. Procedures were sampled and reviewed for appropriates PPE and pre-work inspection requirements.
A change management procedure covering health, safety and environment is in place and operational and examples of major and minor change management exercises indicated that the process is used effectively.
Input from production staff toolbox meetings and engineering staff toolbox meetings, often held in the local language, are channelled to management and through health and safety meetings. Safety Integrated Management Review presentations include various areas and topics associated with cyanide. Safety & Health procedures are considered in the toolbox meetings. Monthly formal Safety & Health meetings are held which can consider procedures. A Multidisciplinary team, including union representatives, is involved in the risk assessment process and considers health and safety issues that may be raised from the workforce.

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 plant pH set point is at 10.4 to 10.5. Automatic pH control is done by adding lime to no 1 Leach tank using pH metering in no 2 or 3 tank. The Cyanide dosing system is interlocked with the pH control system, tripping cyanide pumps at pH 9.5. All settings are based in the PLC instrumentation control station and are changed only on instruction of the Process Manager. Mixing water pH is maintained above 10.5 by addition of Sodium Hydroxide.
There are 6 Fixed HCN gas monitors in the new cyanide facility, 6 fixed monitors installed at leach tanks no 3 and 9, and 1 fixed monitor at the Gekko intensive leach reactor. There are 44 PAC7000 personal HCN gas monitors, and 8 X-am personal HCN gas monitors used by the personnel. The gold room uses a PAC7000 personal HCN gas monitor to clear entry and monitor HCN during operations. A register of personal monitor issues and returns in use. A Hotspot survey was conducted and the potential areas identified using gas measurements and risk analysis were:- the Gold Room

electrowinning area, the new cyanide store, the new cyanide mixing and dosing area, the leach dosing points, and the residue and Gekko intensive leach reactor. Follow up hot spot surveys are conducted weekly. Weekly hot spot survey records were sampled for 2011 and 2012 and the highest levels noted were 6 ppm HCN at CIP batch tank area and at Tailings tank area.
Calibration records for a sample of the units, were reviewed to confirm regular calibration as required by manufacturer. On-going inspections and checks are also used to monitor and check facilities and emergency response equipment functioning and checklists covering three years since certification were sampled.
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. MSDS are available in English and French. The language of the workforce is Malinke (not a written language) and French and English. Active use of signage and pictograms was observed. Cyanide training is done using pictures. Hotspot signage was observed at potential hotspots, as were no eating, drinking and smoking signs at cyanide equipment, where appropriate. The use of the correct signage was verified at the new cyanide storing, mixing and dosing facility. The plant uses a colour coding system to identify pipe contents. Cyanide reagent strength lines are coded violet and cyanide pipes are all marked with direction indicated. Accident and incident reporting and investigation procedures, based upon the site safety reporting requirements, were found to be in place and effective.

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:
Portable radios and cell phones are used for normal and emergency communication. Audible and visual alarms are linked to man down alarms which also alarm in the control room on the SCADA. Nine cyanide emergency boxes are installed at various locations on the plant, as well as at the new dry solid cyanide store and mixing and dosing facility and the TSF. The boxes contain Tripacks antidote kits (stored in fridges according to manufacturer's recommendations), medical oxygen, SCBA packs, and PPE. Water is available at the cyanide mixing area. All safety showers are connected to the alarm system in the SCADA. All Tripacks kit expiry dates are monitored and inspected including the fridges where these are stored. Replacement orders are placed in time to replace the kits before expiry dates. All emergency stations were checked during site inspection. Inspection lists for the antidotes, oxygen BA sets, safety showers, oxygen cylinders, and first aid boxes were checked, confirmed for the whole plant, and sampled for the three years since certification.

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 1 km away), 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 fully equipped, captive mine hospital is manned 24 hours per day, including 8 doctors, with a medical doctor on standby in the village after hours. The Medivac (to hospitals outside Guinea) decision is made by the responsible hospital doctors. The transport procedure is covered by medical protocol flow sheet. The on-site hospital medical facilities are the best available to deal with cyanide emergencies. The hospital and mine clinic are involved in mock drills to ensure they are aware of their role in cyanide emergencies. The hospital is equipped to handle 5 cyanide patients. 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 involved in the ERP plan development through various Risk Assessments and toolbox meetings. 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 involved in the Plan and the captive mine hospital, clinic and paramedics are involved through mock drills and other communications. Local response agencies are not to be used in cyanide emergencies as they are not equipped or trained to deal with these types of 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. These include the Process Manager as the sponsor. The Sponsor provides support at the highest level for the EPP process and ensures that the EPP site coordinator receives the necessary support. The Sponsor must appoint the EPP coordinator, as well as establish the EPP structure. The Plan details emergency response teams and Shift supervisors and day / night shift employees are trained to respond to plant emergencies. There is a list of Emergency Response Team and staff 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 dealt with in the 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 from the Koron mine village in containers. Treatment chemicals use is prohibited in cyanide procedures. Emergency sampling is covered in 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 an annual 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.

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:
All plant staff and contractors that will be on site for more than 5 days, receive induction training for cyanide awareness and basic cyanide first aid, followed by a written test or pictogram test. All visitors receives visitors induction. Verbal training is given in Malinke (local language not written) and oral / pictogram testing is conducted for illiterate staff. Refresher training is conducted annually for all personnel. Refresher training was checked during interviews and review of the interviewee training records. Records are retained for 40 years as per the AngloGold Ashanti corporate standard.

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:
The plant training matrix details training modules required for all normal production tasks performed in the plant. The matrix specifies training required for all plant jobs as per job profiles and training schedules. Cyanide related elements are identified in the job procedures and the training courses needed for each job are specified in the training matrix. 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 test. A PTO program for each Supervisor for 2011, 2012 and 2013 was reviewed. Oral tests are used to evaluate illiterate staff. Records are retained for 40 years as per the AngloGold Ashanti corporate standard.

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 require 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 basic first aid, intermediate cyanide (including buddy system), use of SCBA and oxy-viva and the emergency response plan (ERP). No local responders are involved in any emergency responses. The appropriate affected community was involved in the TSF pipeline failures briefings and meetings in 2005 and 2010.
Mock training drills are conducted involving the ERT's and the Training Officer plans all drills. Drill reports include problem areas identified and corrective action recommended. Recommendations are included in an action plan and followed up. Drills are attended by the Training, Safety and production staff and the report issued includes comments on training, equipment, response times, and planning. Training procedures will be revised where appropriate. The captive mine hospital is also involved in the drills. Records are retained for 40 years as per the AngloGold Ashanti corporate standard.

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.
All employees are made aware of cyanide. The following communities are still identified as being important stakeholders: Setiguia, Kintinia, Fatoya, Balato, Koron Boukaria, Kofilani, Koron Koba, Fensorekolen, and Samani. Periodic sensitisation campaigns are conducted which include cyanide awareness and question and answer sessions. Reports of these meetings were reviewed. Questions raised include distances between Village and TSF pipeline and dangers thereof, and condition of the pipeline. The influx of non-locals

attracted by the mining activities are creating certain problems (outsiders bringing in metal detectors) which are matters raised by the villagers.

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.
All employees are made aware of cyanide. The following communities are still identified as being important stakeholders: Setiguia, Kintinia, Fatoya, Balato, Koron Boukaria, Kofilani, Koron Koba, Fensorekolen, and Samani. Periodic sensitisation campaigns are conducted which include cyanide awareness and question and answer sessions. Reports of these meetings were reviewed. Questions raised include distances between Village and TSF pipeline and dangers thereof, and condition of the pipeline. The influx of non-locals attracted by the mining activities are creating certain problems (outsiders bringing in metal detectors) which are matters raised by the villagers.

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:
Basic cyanide first aid training material is available and teachers and community representatives received formal training. Hand outs are available in case of any request for information.
A Mine incident announcement is made, followed by a detailed investigation, signed by the MD, and reported to Dakar, from where further reporting is determined. The Government as a shareholder, attends quarterly sessions where incidents are reported. Community communication is done, where it concerns the Community, by the public relations department. A pipe sabotage incident on TSF pipeline in 2010 is an example of this. The incidents investigation and reporting procedure includes definitions of Level 1 incidents. Level 2 and 3 environmental and safety incidents are recorded in the annual

reports and sustainable development report. Incident classification is as per AngloGold Ashanti management standard as follows:

1. Level One Incident (Low Aspect) - A level one incident is contained or controlled within a local or specific area,
2. Level Two Incident (Medium Aspect) - A level two incident has the capacity to spread or may have influence on neighbouring activities or enlarge and may require internal / external emergency resources.
3. Level Three Incident (High Aspect) - A level three incident is significant in size and requires external support.

Mine legislation requires reporting of accidents. AngloGold Ashanti Corporate requirements indicate that level 2 and 3 incidents are reported in the annual report. The AngloGold Ashanti annual report, which is publically available, contains information on environmental and safety incidents, including any cyanide related incidents. 2011 AGA sustainability report p 51 contains information on cyanide and the ICMI which is publically available. Environmental releases and reporting is required in terms of Guinean legislation.