

***INTERNATIONAL CYANIDE
MANAGEMENT INSTITUTE***

***Cyanide Code Compliance Audit
Gold Mining Operations***

Recertification Summary Audit Report

***AngloGold Ashanti
Kopanang Gold Plant
South Africa***

19th – 23rd June 2017

***For the
International Cyanide Management Code***



Name of Operation: AngloGold Ashanti Kopanang Gold Plant
Vaal River South

Name of Operation Owner: AngloGold Ashanti South African Region
Metallurgy

Name of Operation Operator: AngloGold Ashanti South African Region
Metallurgy – Vaal River South

Name of Responsible Manager: Ms. Faith Manenzhe

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Location detail and description of operation:

AngloGold Ashanti Kopanang Gold Plant is situated in the Free State Province of South Africa, approximately 10 km south of Orkney. The plant processes waste rock from a variety of sources in the Vaal River operations area but primarily from the Kopanang Shaft rock dump adjacent to the plant.

The plant consists of conventional Run-Of-Mine (ROM) milling, leaching, carbon in pulp (CIP) and electro-winning sections. The ore is milled in a set of 6, parallel ROM, semi-autogenous (SAG) mills. The milled pulp reports to a set of four thickeners for solid-liquid separation. The screened mill product gravitates to the 60m diameter thickeners with lime and flocculent being added to assist with settling and pH adjustment. The reclaimed thickener overflow water is returned to the milling circuit.

After thickening, the pulp is pumped through one of two leach streams comprising a series of eight leach tanks, where the gold is dissolved with Sodium Cyanide at a set pH. The fourth stage is the CIP section, where the dissolved gold is absorbed by activated carbon in the pulp. The carbon loaded with gold is



sent through an elution column, where the gold is stripped from the carbon by a warm caustic solution.

Three integral elution circuits exist. Loaded carbon is pumped out of the No. 1 adsorption vessel to the loaded carbon vibrating screens where the carbon is washed and then discharged into the loaded carbon measuring vessels. The slurry and water returns to the pulp stream. The loaded carbon is accumulated in the loaded carbon vessels and this is then transferred into the elution column. A caustic solution containing 2.2% NaOH at a temperature of 130° Celsius is pumped through the carbon in the elution column.

The pregnant solution (eluate) is cooled down in the flash tanks and then passes through to the electro-winning cells where the gold is recovered from the solution onto the stainless steel cathodes. The barren solution (eluant) then returns to the elution column for re-use. The caustic solution is re-circulated continuously for the entire duration of the elution process of 17 hours. Steam for heating the eluant is supplied by four electrode boilers.

The electro-winning section comprises eighteen Mintek-type smelts. Each cell has six stainless steel cathodes and seven anodes. The dissolved gold in the eluate is electro-won onto the stainless steel in the cathode baskets. The spent electrolyte then flows through to the eluant tank to be re-circulated to the elution column. The cathode gold sludge is smelted for bullion bar production.

Carbon is de-watered using a vibrating screen and fed into the rotating kilns where the volatiles and organic contaminants are driven off and the carbon reactivated by bringing the carbon temperature up to 750° Celsius. The regenerated carbon is acid treated with a 5% hydrochloric acid (HCl) solution for removal of inorganic contaminants. After acid treating, the carbon is returned to the CIP section.

Residue from the plant is pumped to the Tailings Storage Facilities (TSF), which are also used by other gold plants in the Vaal River area operated by AGA. The Gold Plant utilizes the conventional cyanide leach / carbon in pulp technology to extract gold. The final product is gold bullion bars, shipped to the refinery for refining and sale.



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

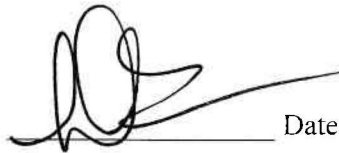
Audit Team Leader: Arend Hoogervorst

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Names and Signatures of Other Auditors:

Name : Dawid M. L Viljoen

Signature



Date: 18/12/2017

Dates of Audit: 19th – 23rd June 2017

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 Mine Operations and using standard and accepted practices for health, safety and environmental audits.

Kopanang Gold Plant



21/12/2017

Facility

Signature of Lead Auditor

Date

Kopanang Gold Plant

Signature of Lead Auditor

17th December 2017

Auditor's Findings

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

Standard of Practice 1.1: 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:

There is an AngloGold Ashanti (AGA) cyanide supply contract, covering all AngloGold Ashanti Gold Plants, including Kopanang Gold Plant, in place with SASOL Polymers, as the sole supplier of liquid sodium cyanide, delivered by bulk tanker. The contract requires that the producer or supplier of cyanide must be a signatory to the ICMI Code and the producer or supplier must be ICMI certified. SASOL Polymers is a signatory to the Cyanide Code and was re-certified as a fully compliant Production Facility with the ICMI Cyanide Code on 29 March 2016.

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:

The supply contract between SASOL Polymers and AngloGold Ashanti (which includes Kopanang Gold Plant) 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. SASOL Polymers' cyanide transporter, Tanker Services Specialised Products Division, was re-certified on 17 July 2015 as a fully ICMI Code compliant transporter.

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 AngloGold Ashanti supply contract (which includes Kopanang Gold Plant) 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. Tanker Services Specialised Products Division, SASOL Polymers' cyanide transporter, was re-certified on 17 July 2015 as a fully ICMI Code compliant transporter, thus meeting all the requirements for appropriate emergency response planning and cyanide management.

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 operation uses only liquid cyanide, delivered by bulk tanker, and no mixing or storage of solid cyanide takes place on site. As confirmed in previous certification audits, the offloading and storage facilities were designed and built, in accordance with sound and accepted engineering practices, with materials appropriate for use with cyanide and are located in concrete bunds away from people and surface waters. Cyanide storage

tanks are located within a steel framework above a concrete lined bunded area. The liquid cyanide storage tanks are each equipped with a ventilation pipe to prevent HCN (Hydrogen Cyanide) gas build-up. Regular cyanide producer technical audits of the cyanide storage and offloading area have confirmed the acceptability of the facilities. The cyanide is also stored away from incompatible materials. The Cyanide offloading area is located on a concrete surface equipped with humps, for containing any spilled solutions. Drainage flows to a spillage sump equipped with a pump, which delivers into the main bund area. The tanks' level indicators display at the tank site and on the control room SCADA ("Supervisory control and data acquisition" system) –computerised control system). High level alarms are set at 85% and interlock with the delivery air valve to stop offloading at 85%. Cyanide orders are placed at 45% to 50% tank capacities to take the load capacity of a 24 ton cyanide delivery truck. The procedure covering cyanide unloading was reviewed and found to be effective. The offloading and storage areas for the liquid sodium cyanide are contained, barricaded, closed off with restricted access, bund walls installed, and within the main plant security area, with no public areas close by.

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:

Liquid sodium cyanide is delivered in bulk tankers from Sasol Polymers to the Plant and offloaded into cyanide storage tanks. No solid cyanide is used on the plant therefore the only containers are the tankers themselves. The tanker couplings, connection pipe, and offloading couplings are washed before and after offloading. The outside of the tankers are also cleaned on their return to Sasol's premises. The offloading procedure is detailed, spelling out PPE (Personal Protective Equipment) requirements, use of a "buddy" in the process, and opening and closing of valves and connection of couplings are clearly sequenced to prevent spillages and accidental releases during off-loading.

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 Kopanang Gold Plant has 21 general cyanide process and engineering procedures in place, covering process and Engineering, 7 PPE Procedures, 15 Cyanide Emergency Procedures, 18 General Emergency Procedures, 5 Environmental Procedures, supported by 11 TSF contractor operating and management procedures and a mandatory Code of Practice covering TSF operation.

Annual Vaal River Operations Tailings Facilities Audit Reports, by the AngloGold Ashanti Senior Manager: Geotechnical Engineering, were sighted with the conclusion, "...VRO (Vaal River Operations) TSF is generally in good condition and is well managed..." On-going issues were identified, prioritised and actioned in regular TSF meetings. The Geotechnical Engineer (AGA South Africa Region Surface Operations) concluding in a note for the record that, "... The TSF's are operated in accordance with the Code of Practice. I conclude that the Vaal River TSF's are stable and possess good factors of safety against major slope failure..."

Pond levels are proactively managed using return water pond freeboard as specified in the ISO procedure, i.e. Water Key Performance Indicators. Cyanide releases are prevented using the High WAD (Weak Acid Dissociable) levels procedure and effective stormwater management through 1:50 storm event designs.

Routine daily, weekly, monthly and quarterly inspection reports (including operational inspections, SAP (Proprietary Name) Planned Maintenance System (PMS) inspections, and Structural Integrity Management Monitoring (SIMM) inspections), legal inspections, and checklists for proactive and reactive management were sampled to confirm the effectiveness of systems. At the TSFs, Pipeline Patrols are undertaken for each shift (3 shifts per day) to spot any leaks and take appropriate action as detailed in the Pipeline Failure Procedure. In addition, Wonderware (the SCADA control room system) shows in real time the operation of the pumps so that any issues can be seen immediately. TSF freeboard is surveyed on a monthly basis (Cyclone West Extension dam), and the other dams are surveyed on a quarterly basis. The return water dams are equipped with ultrasonic level detectors and use is made of telemetry to the central control room to record data. The pumps are controlled either manually or automatically. There is a probabilistic water balance in place, and no scenario has been identified where the need has been highlighted to shut down plant to prevent overtopping. Proactive planning and management of containment dams, dam levels and normal and abnormal conditions contributes to reduction of risk and the unlikely need to temporarily cease plant operations under abnormal precipitation events. The plant is designed to contain any



spillages in the anti-pollution ponds and thus no back up power is required in case of power failures.

A SAP planned maintenance system (PMS) is in place including the plant and TSFs and was reviewed and sampled electronically for all equipment over the three year period since the last certification. Operational inspections conducted include: Shiftly inspections; Cyanide storage facility daily inspections; Legal two weekly inspections; and Shift foreman's daily inspections. Tank thickness testing is done on a planned basis for all high and low strength cyanide tanks. TSF inspections are carried out shiftly, daily, monthly, quarterly and annually. The inspection frequencies for the TSF and plant are deemed sufficient to assure and document that they are functioning within design parameters.

A change management procedure covering health, safety and environment is in place and although four management of change exercises were carried out, none involved cyanide. The procedure requires sign-off by safety and environmental personnel.

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:

A cyanide optimisation program dated December 2016 was reviewed. Monthly (changed to quarterly) diagnostic leach samples are submitted to SGS Laboratories (sampled October 2015, October 2016 and April 2017). The samples indicate that grinding needs to be finer. Quarterly reports sighted are retrospective in nature.

The Vaal River Laboratories conduct daily grade analyses and these results are used to change operating parameters. The cyanide set point change dated 21 May 2017 from 160 to 180 ppm in leach was sighted. Ore from different surface waste rock sources are milled. Charts were sighted indicating that MOD3 (Marginal Ore Dump) was consuming more cyanide and producing higher residues. The cyanide set point was increased and later a decision was reached to reduce the ratio of MOD3 to 15% as a result of an AGA Internal Investigation report, "Investigation on high washed residue at KGP (Kopanang Gold Plant)", dated 20 October 2016. MOD 3 samples were sent to SGS Laboratories to identify the reason for high residue.

Cyanide consumption graphs were reviewed, indicating an increase in cyanide consumption. Test work to evaluate the impact of adding lead nitrate on cyanide consumption is being conducted. The plant is considering improvement in the manual



free cyanide titrations in the last leach tank and a plant trial on oxygen addition is in the process of being evaluated.

The plant uses a TAC1000 on-line analyser to measure cyanide in the head leach tank and a manual titration for the monitoring of terminal cyanide in the Leach Residue. This is fed into the Remote Operating Centre (ROC) on-line system so that all managers can see the data. If the values are too high (above 40 mg/l WAD cyanide) or too low, a cascading e-mail and SMS text system is used to inform managers of the situation, ultimately including the Regional Vice President.

The TAC 1000 measures free cyanide on stream from both streams at 6 minute intervals. A ratio control system is used. The ratio is measured and controlled for each leach train. The dosage rates are controlled via the PLC (Programmable Logic Controller) and automatic valves. The TAC 1000 on line free cyanide is measured and controls the ratio settings. TAC 1000 maintenance is done weekly, changing the socks and filling consumables. Evidence of service work was sighted.

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:

A GoldSim Water Balance (a probabilistic water balance (PWB)) was developed in 2010 and incorporates scenario planning to do water demand and water conservation strategy. Water balance input sheets are updated quarterly and fed into GoldSim. Other updates are done when major changes occur such as the recent influx of additional groundwater due to neighbouring shafts that stopped pumping. This model was used until the end of 2014.

Clean dirty separation studies (1:50 year storm event) data is fed into the GoldSim model in terms of dam sizes and overflows. The 1: 50 year storm event model run on GoldSim includes every AGA plant and TSF, dam and catchment areas reviewed post 2009.

A meteorological assessment was conducted by an independent consultant and 1:50 year storm event was revised from 118mm to 130mm of precipitation in 24 hours. From there, the plant specific conditions and requirements were assessed.

The GoldSim model was replaced at the end of 2014. A new probabilistic water balance model for the Vaal River Region is being subsequently used. The model (the February 2017 water balance update was sighted) includes evaporation, rainfall, seepage and interstitial water in the calculations. The model is updated monthly using actual rainfall, slurry feed rates and standard assumptions and actual measurements for interstitial water, seepage, and evaporation. Rainfall is measured daily on the plant and via weather stations and rain gauges on the TSFs.



The return water dams are run at maximum operating levels to cater for power failures (80% and 28% of total capacity). This was confirmed in graphs in the ISO procedure: "Surface water management procedure for Vaal River and MWS" for Environmental Department, Mine Waste Solutions, Vaal River Tailings Management. Thus no emergency power is required to prevent overtopping of the return water dams.

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:

WAD cyanide results from the on-line Cynoprobe analyser from MOD and KOP (acronym for Kopanang) streams no 8 Adsorption tank were reviewed.

2014: No exceedances were recorded

2015: No exceedances. The on-line analyser was off line for three days during 4,5, and 6 February 2015. However, as a back-up, free cyanide titrations were done on shift and the combined MOD KOP stream was sampled as a daily grab sample. This was sent to the laboratories and analysed for WAD cyanide as a special sample which is analysed when received. Sighted free cyanide results and laboratory results:

- Free cyanide: (mg/l) 4 /5/2015: MOD 15, 12,10 and KOP 17,9,11.

- Free cyanide:- (mg/l) 5/5/2015: MOD 7, 5, 6.5, KOP 15, 12, 15.

- Free Cyanide:- (mg/l) 6/5/2105: MOD 5, 4, 6 KOP 12, 9, 7.

- WAD Cyanide from laboratory: 20, 19 and 15 mg/l WAD cyanide, respectively.

Extrapolating alternative results, it can thus be deemed that the WAD cyanide levels at the TSF spigot were below 50 mg/l WAD cyanide.

2016: No Exceedances were recorded.

2017: Two exceedances occurred and were investigated. During 3 and 4 January 2017, the investigation identified Leach contact time as the basic cause. Remedial action identified was to limit tonnage to design quantities. Some of the leach tanks were silted up and this resulted in the contact time being reduced. A longer term leach tank maintenance program was initiated which will result in cleaning the tanks and so increase contact time.

One exceedance occurred on 2 June 2017 and the investigation identified the blocking of the TAC 1000 filter bag resulting in low values of free cyanide recorded and thus more cyanide was dosed to reach the set free cyanide parameter. The cause of the choked filter bag was traced to the closed blow-off valve on the sampling system. The valve handle was removed to prevent future incidents. Thus, the TSFs and all return water dams are containing less than 50 ppm WAD Cyanide and do not therefore require any special measures to restrict access by wildlife. Wild life mortality inspections are conducted

daily and no cyanide-related mortalities have been reported for the whole TSF complex at Vaal River or at the Kopanang plant during the period since certification.

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 are no direct discharges to surface water from these cyanide facilities. Two legal discharge points exist that are allowed to discharge seepage water to the Vaal River. However, these discharges are not from any of the cyanide facilities and do not form part of the scope of the audit. Seepage from the tailings facilities are intercepted by a system of trenches and boreholes and this water is pumped to storage facilities before being used in the gold plants (including Kopanang Gold Plant) for the Vaal River area as process water. This includes water from the Eye Dam sump and the Boat Club sump. Monitoring is conducted upstream and downstream of the gold plants and associated infrastructure on the Vaal River and the Schoon Spruit (Schoon River).

The downstream values for the Vaal River are sampled monthly and results between 2014 and to date are below limits of detection of 0.02 mg/l WAD cyanide. The downstream values for the Schoon Spruit between 2014 and to date are also below limits of detection of 0.02 mg/l WAD 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

Mining processing plants' process water is the only beneficial use of groundwater in the immediate area and all other water for domestic and livestock use is supplied in pipes by the Midvaal Water Company.

Various water management measures to manage seepage to protect the beneficial uses of ground water beneath and/or immediately down gradient of the operation are in place and they include:- lining of trenches for the transportation of process water; boreholes adjacent to the Vaal River to intercept seepage from TSF's; sub surface perforated

pipelines that discharges into the Boat Club sump before being pumped to the plants; and various areas of woodland adjacent to TSF's planted to undertake Phytoremediation of shallow groundwater.

There is no numerical standard established by the applicable jurisdiction for WAD cyanide or any other species of cyanide in groundwater, therefore there are no compliance points below or down gradient of the gold plants or tailings facilities. Groundwater monitoring is undertaken to establish whether the tailing facilities are having an impact on the surrounding groundwater. Groundwater monitoring is undertaken twice a year. No cyanide values above 0.02 mg/l have been recorded since 1 January 2011.

The plant is equipped with bunds, concrete lined trenches and tarred and paved surfaces, and lined containment dams to assist with managing seepage to protect beneficiary use of groundwater.

There is no backfill operation associated with the plant or being used in the shafts.

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:

The cyanide storage tanks are placed on steel legs inside a concrete bunded area. Flat bottom leach and CIP tanks are placed on solid concrete plinths and within a concrete bund, which are connected via concrete lined, covered drainage channels to the concrete lined pollution control dams. Two linked, concrete-lined, pollution control dams with a total volume of 11,610m³ are used to contain any overflows from plant bunds and dirty water resulting from rainfall events. All sumps are linked to the pollution control dams via concrete trenches and, in the case of the leach, tarred roads and culverts. Process solution tanks secondary containments are linked to ensure sufficient combined capacity to prevent overtopping. Any liquid within the pollution control dams can be pumped to the thickeners or to the residue circuit.

Within the Gold Plant, all reagent strength pipelines are within secondary containment launders or inside the cyanide storage bund. Slurry pipelines containing cyanide are placed above concreted and tarred surfaces, running down into the pollution control dams, from where it can be returned to the process. All unlined slurry pipelines are part of the SAP PMS system and the Pipeline Patrol system. Pipelines are being replaced with HDPE lined steel pipelines as a spill prevention measure.

One area where the slurry lines cross the 9 shaft bridge (Kopanang bridge) was identified as a potential risk. Special protection measures include the lining of all lines, before and after, crossing the bridge and an associated containment paddock.



Cyanide tanks and pipelines are manufactured from materials compatible with cyanide and high pH conditions, as per Chapter 46 of the South Africa Region Metallurgy (SARM) Cyanide Code Implementation Guidelines document.

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:

There were no new additions or extensions to the process plant. Detailed Quality Control/Quality Assurance documentation is available for the TSFs and for the plant and has been audited previously. A professional engineer also conducted visual inspections as part of the AngloGold Ashanti Structural Integrity Management and Monitoring (SIMM) reports for plants and concluded that the Kopanang plant is fit for purpose, subject to on-going maintenance work.

AngloGold Ashanti has in place an on-going SIMM (Structural Integrity Management Monitoring) system report, which is a corporate risk monitoring system for plant structures for all mines, which regularly reviews and re-prioritises all structures and recommends repairs and maintenance. This replaces the need to keep original QA/QC records and covers where records are not available.

The Geotechnical Engineer (AGA South Africa Region Surface Operations) concluded that, "...The TSF's are operated in accordance with the Code of Practice. I conclude that the Vaal River TSF's are stable and possess good factors of safety against major slope failure..." The Senior Manager: Geotechnical Engineering, AngloGold Ashanti concluded, "...VRO(Vaal River Operations) TSFs are generally in good condition and are well managed..."

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:

Procedures for environmental monitoring (including sample preservation techniques, log sheets including sampling conditions notes, and chain of custody procedures) of surface

water and borehole water, developed by competent persons, were sighted and checked. Boreholes are placed and sampled upstream and downstream of the plant, The Vaal River is sampled up and downstream of the mine. Boreholes are sampled monthly, the Vaal River is sampled monthly, wildlife is monitored daily, water dams are sampled monthly and plant boreholes are sampled quarterly. The frequency with which the surface water, groundwater and wildlife is monitored is deemed to be adequate to characterise the medium being monitored and identify any changes in a timely manner.

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:

A closure and decommissioning procedure is in place which describes the process to follow 12, 6 and 3 months prior to, and during, closure and decommissioning of cyanide facilities. Use would also be made of the South Africa Region Metallurgy (SARM), Cyanide Code Implementation Guidelines, which describe the process to be followed during decommissioning in Chapter 38: Basic Demolition Practices. The decommissioning procedure was reviewed in 2017 and 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 environmental liability estimates accounting 2016, Kopanang Gold Plant to fully fund third party implementation of the cyanide-related decommissioning measures identified in its site decommissioning plan were reviewed. The estimates include line item estimates which are:- decontamination of storage and dosing system, decontamination of SASOL tanker, chemical cleaning of storages, and associated



medicals, induction, screening training and travel. Closure liabilities are updated annually to take account of any changes at the facilities. The AngloGold Environmental Rehabilitation Trust Annual Financial Statements 2015 were sighted which were signed off by a Director of Nexia SAB & T (Auditors) on 30 March 2016. The financial assurance mechanism is sufficient to cover cyanide-related decommissioning activities.

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 Kopanang Gold Plant has 21 general cyanide process and engineering procedures in place, covering process and Engineering, 7 PPE Procedures, 15 Cyanide Emergency Procedures, 18 General Emergency Procedure, 5 Environmental Procedures, supported by 11 TSF contractor operating and management procedures and a mandatory Code of Practice covering TSF operation. Various procedures were sampled to check inclusion of health and safety mitigation, PPE requirements and pre-work inspections and found to be appropriate.

Annual Vaal River Operations Tailings Facilities Audit Reports by the AngloGold Ashanti Senior Manager: Geotechnical Engineering were sighted with the conclusion, "...VRO TSF is generally in good condition and is well managed..." On-going issues were identified, prioritised and actioned in regular TSF meetings. The Geotechnical Engineer (AGA South Africa Region Surface Operations) concluding in a note for the record that, "... The TSF's are operated in accordance with the Code of Practice. I conclude that the Vaal River TSF's are stable and possess good factors of safety against major slope failure..."

Routine daily, weekly, monthly and quarterly inspection reports (including operational inspections, SAP Planned Maintenance System (PMS) inspections, and Structural Integrity Management Monitoring (SIMM) inspections), legal inspections, and checklists for proactive and reactive health and safety management were sampled to confirm the effectiveness of systems. Proactive planning and management of containment dams, dam levels and normal and abnormal conditions contributes to reduction of risk and the unlikely need to temporarily cease plant operations under abnormal precipitation events. The plant is designed to contain any spillages in the anti-pollution ponds and thus no back up power is required in case of power failures.

A SAP planned maintenance system (PMS) is in place including the plant and TSFs and was reviewed and sampled electronically for all equipment over the three year period



since the last certification. Operational inspections conducted include: Shiftly inspections; Cyanide storage facility daily inspections; Legal two weekly inspections; and Shift foreman's daily inspections. Tank thickness testing is done on a planned basis for all high and low strength cyanide tanks. TSF inspections are carried out shiftly, daily, monthly, quarterly and annually. A change management procedure covering health, safety and environment is in place and although four management of change exercises were carried out, none involved cyanide. The procedure requires review and sign-off by environmental and safety personnel.

Worker input on health and safety and procedures comes through monthly Health & Safety meetings, including the Health and Safety Representatives. Further worker input comes via mock cyanide drills, Green Area Meetings, One Team Meetings (OTMs) and involvement in risk assessment teams.

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 control in the plant is set at 10. The Occupational Health monitoring results for 2015 and 2017 were sighted and the highest HCN gas value of 1.6 was measured at the cyanide offloading area. This control confirms that running at a pH of 10 limits the evolution of HCN during production activities.

The plant uses 5 Fixed Polytron HCN gas monitors at the cyanide dosing point and the residue tank, 8 PAC 7000 personal HCN monitors and 8 X-am 5000 personal HCN monitors. The use of labelling and installation of Polytron fixed HCN gas monitors at hotspot areas was confirmed during the site inspection. Procedures require appropriate use of Personal Protective Equipment based upon risk.

The monitor alarm settings were confirmed during an interview with the Occupational Hygienist as being set to alarm at 4.7 parts per million continuously over an 8-hour period and first alarm at 7.5 ppm HCN and then at 10 ppm on an instantaneous basis. Evidence of on-going maintenance of the monitors was sighted. Calibration records were sighted for the past 12 months for all monitors. Plant calibration frequency is 3 monthly and the manufacturers requirement is a minimum of 6 monthly frequency.

The use of safety showers and low pressure eye wash stations at the identified strategic positions where cyanide is used was confirmed during site inspections. The placement of powder fire extinguishers at strategic areas in the plant was also confirmed. The fire extinguisher files for 280 units on site were sighted. Fire extinguisher inspections are done monthly by the Services Foreman and annually by Fest Fire (specialist contractor). On-going inspections and checks are also used to monitor and check facilities and



emergency response equipment functioning and checklists covering three years since the last certification were sampled. MSDSs and first aid information is available in English. The use of warning signs throughout the operation was confirmed during the site inspection. The signage included advising workers that cyanide is present, and that smoking, open flames and eating and drinking are not allowed, and that, if necessary, suitable personal protective equipment must be worn at the Cyanide offloading and cyanide dosing areas. Signs are placed at TSF sides and at the penstock prohibiting the drinking of the water, instructing on what PPE must be worn, prohibiting unauthorised entry and no swimming. Signage was observed on slurry lines at the bridge crossing and other road crossings where the Public are passing, advising that poisonous water is present.

It was confirmed during the site inspection that unloading storage and mixing, as well as process tanks are labelled and colour coded as per the plant standards: Cyanide tanks are signal red with purple bands and cyanide pipes are painted purple with directional flow indicated on the secondary containment launder. Slurry tanks are painted Admiralty Grey. Formal employee interviews were used to check awareness and sensitivity to health and safety measures and the response from employees and contractors alike, was found to be appropriate and acceptable. Accident and incident reporting and investigation procedures, based upon the AGA 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:

There are detailed, written emergency preparedness plans in place for the plant and the Vaal River Tailings facilities covering various cyanide release and exposure scenarios. Fully equipped First Aid rooms were sighted at the Cyanide Storage Area, at the top of Leach and at the top of CIP/Residue, all of which contain water, oxygen, antidote kits, radio and telephones available for use. ER24 (ambulance and paramedics) are part of the emergency response for AngloGold Ashanti. The ER24 headquarters for the Vaal River area is located at Kopanang Shaft.

The nearby West Vaal Hospital (AGA-dedicated hospital) has water (outside shower), oxygen, antidote kits, and resuscitator available to accept patients exposed to cyanide at Kopanang plant. This was verified during the hospital site visit. Hospital staff are specifically trained to handle cyanide emergencies.

Inspection checklists including the cyanide antidote kits, oxygen cylinders and plant cyanide first aid boxes were sighted and sampled. Oxygen cylinders are inspected daily and weekly and inspection sheets are counter-signed monthly by the Production

Metallurgist. Sampled records in 2015 and 2017. The plant cyanide first aid boxes are sealed and inspected daily, weekly and monthly and counter-signed monthly by the Production Metallurgist. Records were sampled for January to December 2015 and January to June 2017. At the West Vaal Hospital Casualty Ward TriPac and Hypo Solution were observed kept in a fridge. Cyanide antidote kits are kept in fridges and stored as directed by the manufacturer.

The Plant Emergency Response Team consisting of Cyanide Appointees is available 24 hours per day for cyanide emergency response. All 12 Cyanide Appointees are fully trained in cyanide emergency response and first aid.

Vaal River Tailings does not have cyanide emergency equipment or a cyanide emergency response team. In the event of an emergency at the TSF, the Shift Forman will be immediately informed who will then call ER24 and, at the same time, inform the Tailings Production Metallurgist who then informs the nearest Plant Production Metallurgist who will send their Emergency Response Team. The Shift Foreman/ Tailings Production Metallurgist will also inform the Occupational Health Doctor and Occupational Health Sister. A Procedure for Notification of Cyanide Exposures to Vaal River Tailings Employees details that the ER24 emergency ambulance service will be called, in the event of a cyanide exposure, and the patient will be taken to the West Vaal hospital for treatment.

Man down drills are used to assure that the medical facility is competent and equipped to handle emergencies. Hospital staff are specifically trained to handle cyanide 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 Kopanang Gold Plant Emergency Response Plan in place and the Plan includes cyanide response scenarios as per a procedural HAZOP study of the emergency scenarios assessment for the Kopanang gold plant. The Mandatory Code of Practice on Emergency Preparedness and Response Plan includes the Vaal River Tailings Emergency Preparedness Plan. The TSF Plan includes escalations of emergency levels from level 1 to level 2 or 3 and includes managing such issues as evacuation and community impacts. These preparations are regularly reviewed in the light of changes, mock drill learning points and employee feedback.



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:

SHE (Safety, Health & Environment) meetings and OTM meetings involve the work force and the update of risk assessment on emergency scenarios. Full-time Health & Safety Representatives Meetings are also a forum to discuss issues relating to the ERP. Emergency drills are used to involve the workforce in the response planning process and drill reports indicated evaluation and feedback. The community is not directly involved in the Plan but is informed on its contents during dialogue sessions. Drills are used to involve hospital and ambulance staff in emergency response planning processes. A Cyanide Management Brochure for Processing Plants explaining:- what Cyanide is, its effects on people and the environment, reasons for use and ICMI certification has been produced. This brochure is distributed electronically or in paper format on request. Brochures were distributed during community meetings and at taxi rank visitations in 2016.

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 Emergency Response Plan details clear duties, roles and responsibilities and training requirements for the various emergency scenarios. The emergency equipment inventory was checked and site inspections confirmed availability and readiness via equipment checklists sampled in 2015, 2016 and 2017. 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.

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 Preparedness Plan includes details of incident classification and escalation guidelines, 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 covering plant and TSF emergencies.

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 cross-references to detailed and specialised procedures which cover clean-up and remediation relating to releases, pipeline failures and spills, as appropriate to the site-specific identified scenarios. Use of neutralization processes and materials is clearly covered, as is disposal of contaminated materials and debris. The use of treatment chemicals, such as ferrous sulphate, in surface water is prohibited and cross referenced to a specific ferrous sulphate handling procedure.

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 Plan is required to be reviewed annually, following incidents and emergency drills or when new information regarding cyanide becomes available. The Vaal River Tailings Emergency Response Plan is reviewed three yearly with the next review due in 2019.



Drill reports including gassing and splashing were sighted. Evidence was sighted of learning points emerging from the various cyanide man-down drills.

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 AngloGold Ashanti staff entering the plant gate receive a 2 day Induction. A refresher is undertaken no longer than 18 months after the previous course. This includes cyanide hazard recognition and basic cyanide first aid, which is refreshed every 12 months. The presentation used to undertake the Induction was viewed. The Basic Cyanide First aid and medical treatment for cyanide exposures course includes:- cyanide chemistry, interacting with oxygen, toxicity, symptoms, gas generation, how cyanide is transported, SHE issues in the event of cyanide poisoning, first aid equipment for cyanide, First Aid training, emergency response chain, warning alarm systems, emergency response by control room, buddy system requirements, cyanide PPE requirements and use, cyanide PPE for hospitals, gas detection instruments, cyanide first aid and antidote kit (regulation 24.8.2), contents of medical aid kit details, cyanide exposure and symptoms, consequence of cyanide poisoning, generation of HCN, first aid procedure for cyanide poisoning, cyanide patient to be transported to the hospital directly, and emergency response in case of incident including taking TriPac and Chapter 42 Medical Treatment Procedure (Cyanide Guidelines), in the ambulance transport to the hospital. Written tests are conducted for the induction and refreshers with a pass mark of 80%.

Contractors that spend more than 3 days on the plant or if the contractor is on the plant for less time but will perform high risk work, will receive the same Induction Training as the employees. Contractors that work less than 3 days on the plant (under direct supervision of a plant employee) will receive plant specific induction.

A training matrix is in place for all employees per plant/area showing the individuals and the various training modules including job specific training. The training matrix highlights the training employees have completed (green), where the training is due to expire within 3 months (yellow), and where the training is out of date (red). The permanent contractors, FAT and Cyclone Projects, who work on the Vaal River TSF keep their own training matrix. Inductions for various groups of people were sampled and reviewed. Training is done at Vaal River by qualified trainers. Confirmed that records of all training are retained electronically for at least the life of the plant (EduCos).



Hard copy records per person per plant and per contractor are also kept for at least the life of the plant and archived in a container at the Central Training Centre.

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:

Workers are trained to perform their normal production tasks, including unloading, mixing, production and maintenance with minimum risk to worker health and safety and in a manner that prevents unplanned cyanide releases. The training matrix was observed that defines what training each worker is to receive based on their position and the tasks required of that position. The cyanide matrix covers all disciplines including Engineering (Maintenance), and Metallurgy (Plant Operations).

Sighted minimum generic standards for positions and sampled signed off standards for Boilermaker, Plant Attendant, Cleaners, Cyanide Off-loader, and Emergency teams. All positions and tasks where high cyanide risk exists, must, in addition, receive training as a cyanide appointee and be found competent in the training. Competency assessments are done to initially determine competency in performing tasks by trained assessors.

The Cyanide off-loader training was sampled and includes:- First Aid, Basic cyanide first aid, Metallurgy induction, preparation for maintenance, PAC 7000 or Xam 5000 HCM gas monitors, SCBA, Cyanide Appointee Unit standard, and Cyanide Off-loader Unit Standard.

The Kopanang Gold Plant trainer was qualified as a Workplace Assessor - (ETDP SETA Accredited Service Provider), and had completed courses in the Training of Trainers, and Coaching and Counselling.

The Mine Conducts Planned Task Observations (PTOs) and conducts refresher training if identified by the PTO. Deviations on PTO's are recorded in the Risk Management System (RMS) and corrective actions will follow as appropriate which includes retraining, coaching or disciplinary measures. On the TSF, refresher training in terms of task training is conducted continuously. Refresher training is monitored using the matrix. It was confirmed that records of all training are retained electronically for at least the life of the plant (EduCos). Hard copy records per person per plant and per contractor are also kept for at least the life of the plant.

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 employees and contractors receive Basic Cyanide First Aid training during the induction training. Cyanide Appointees form the Emergency Response Team in each plant. The Cyanide Appointee training unit standard on cyanide releases covers basic first aid treatment for cyanide exposure, entering in confined spaces, cyanide neutralisation and spillage disposal. The training matrix also specifies training as per the Emergency Preparedness Plan (EPP).

Intermediate Cyanide First Aid is assessed every 12 months as part of the training for Cyanide Appointee and Off-loaders. Advanced Cyanide First Aid (including SCBA) is refreshed every 2 years. Fire Incident Command is refreshed every 2 years. Cyanide Appointee and Off-loading training is refreshed every year. In addition, Cyanide Emergency drills are undertaken monthly.

It was confirmed that training and refresher training are up to date in the training matrix. The West Vaal Hospital and ER24 staff receive cyanide first aid intermediate training and are assessed for competency. They are also involved in drills for training purposes. It was confirmed that records of all training are retained electronically for at least the life of the plant (EduCos). Hard copy records per person per plant and per contractor are also kept for at least the life of the plant. Drills are also attended by the Training Officer who reviews drill reports and training procedures and revises training when deficiencies are identified.

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. A walk-about at the Taxi Rank and Spa shops at Wedela Township on 22 Aug 2016 involved members of the pipe patrol, the cyanide champion, and the Production Metallurgist Tailings, to inform community members about the Mines activities and raise cyanide awareness.



Members of the Community can raise any mine-related concerns (including cyanide) at the Vaal River and West Wits environmental Forums. Attendance lists sighted showed attendance by Community members, local businessman, Government Officials, and Councillors.

The minutes of the West Wits Operations Forum meeting held on 9 March 2017 in the municipal boardroom, Carletonville and the Vaal River Operation meeting held on 18 May 2017 at the Peacock Guesthouse, Stilfontein were also sighted. Minutes of a 15 July 2015 KOSH (Klerksdorp, Orkney, Stilfontein, Hartebeestfontein) meeting included the mention of presence of toxic chemicals on the TSF which was of interest to cattle owners. The meeting was held at the offices of Department of Mineral Resources (DMR), Klerksdorp.

A presentation to Umsizi (running the AGA Livestock Management Plan-LMP) dated May 2017 was sighted. The presentation detailed the LMP which was developed as a result of problems with free ranging livestock (e.g. accidents and drinking of contaminated water and destruction of veld). The initiative is aimed at the owners of livestock which might affect, or be affected by, the mining operations.

The AGA West Wits Fire Captain liaises with the Municipal Fire Department on a regular basis on all fire matters related to the mines (including, where appropriate, cyanide.) The AGA West Wits Fire Department is also a member of the Fire Protection Association (FPA) where relevant topics are discussed. The Fire Captain also discusses emergency planning with neighbouring land owners to ensure there is a co-ordinated response. This includes the neighbouring game farm. Chemical HAZMAT, including cyanide truck accidents, are also discussed with the municipal fire department.

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. A walk-about at the Taxi Rank and Spa shops at Wedela Township on 22 Aug 2016 involved members of the pipe patrol, the cyanide champion, and the Production Metallurgist Tailings, to inform community members about the Mines activities and raise cyanide awareness.

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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:

The Cyanide Management Brochure for Processing Plants explaining what cyanide and ICMI are, the possible effects on the environment, and reasons for its use was sighted. This brochure is available for distribution by the Plant either electronically or in paper form. This is displayed as a poster inside the plant. The majority of the community in the vicinity of the AGA Gold Plants in the Vaal River Region and West Wits Region are literate. The presentation to the taxi rank was done in the local languages (Xhosa and Sotho). The brochure is made available publically and is posted at the Vaal Reefs Supermarket and Take-Aways, the Orkney Library and has been made available at the Vaal Reefs Technical High School.

No cyanide exposure, hospitalisation or fatalities occurred or were reported in the last three years at either the TSF's or the Gold Plant. Any cyanide exposure is reported to the Department of Minerals within 14 days, when confirmed to be inhalation of poisonous gas. Fatalities are reported immediately.

An AGA Group-wide Workforce Management Reporting System (WMRS) is used as an electronic reporting platform for all safety and environmental incidents, inspections and deviations. Accidents are classified as Minor, Moderate, High, Major and Extreme and are reported to the national Department of Mineral Resources and the Department of

Water Affairs and Exposure reports are available on the AngloGold Ashanti public web site.

The following were observed on the AGA website:

AGA Sustainability Report published 2016 - page 42 - reporting on ICMI certification for AngloGold Ashanti - report on incident Cocoruto in Brazil, p 46. Cyanide usage is reported on in the report. (<http://www.aga-reports.com/16/sdr>). The AGA Sustainability Report for 2014 - p 25 reporting on cyanide usage. 20 AGA cyanide plants are certified under the ICMI Cyanide Code. (<http://www.aga-reports.com/14/sdr/>). The AGA Sustainability Report for 2015 - p 38 mentioning 4 sites were recertified, p 39 reporting on 2 Obuasi incidents, and one Vaal River 2015 incident when the slurry pipeline failed at Kopanang resulting in a spillage to the storm water trench. (This was not deemed a “significant cyanide incident” in terms of the Cyanide Code). Cyanide Code and cyanide consumption were also covered (<http://www.aga-reports.com/15/sdr/home>). No cyanide exposures, hospitalisation or fatalities occurred or were reported during the period since the last certification.

