



June 2014

ICMI RE-CERTIFICATION SUMMARY REPORT

AngloGold Ashanti Kopanang Gold Plant

Submitted to:

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REPORT



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1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Cyanide User Facility: Kopanang Gold Plant

Name of Cyanide User Facility Owner: AngloGold Ashanti (AGA)

Name of Cyanide User Facility Operator: AngloGold Ashanti (AGA)

Name of Responsible Manager: Mr L LaGrange Lombard

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2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

AngloGold Ashanti Ltd. is a global gold mining company. It was formed in 2004 by the merger of AngloGold and the Ashanti Goldfields Corporation. AngloGold Ashanti (AGA) is now a global gold producer with 21 operations on four continents: Africa, North America, South America and Australia.

The subject of this Re-certification Audit, the AngloGold Ashanti Kopanang Gold Plant, is operated as part of the Vaal River operations. It is situated in the Free State and North West Provinces of South Africa, approximately 24 km South East of Klerksdorp.

At the time of the previous Re-certification Audit in 2010 the gold plant treated primary, underground gold ore, mined at the Tau Lekoa and Kopanang Shafts in a twin stream configuration with the remaining mill capacity filled up with the addition of payable grade, waste rock. The plant now only process 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 a 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.

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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.

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SUMMARY AUDIT REPORT

Auditors Findings

**AngloGold Ashanti
Kopanang Gold Plant is:**

in full compliance with
 in substantial compliance with
 not in compliance with

**The International
Cyanide Management
Code**

Audit Company: Golder Associates Africa (PTY) Ltd
Audit Team Leader: Ed Perry, Lead Auditor
Email: eperry@golder.com

Kopanang Gold Plant has not experienced any significant cyanide incidents or compliance problems during the previous three year audit cycle.

Name of Other Auditors

Marie Schlechter, ICMI pre-certified Mine Technical Specialist

Dates of Audit

The Re-certification Audit was undertaken between 4 October 2013 and 18 October 2013. The tailings facilities and other central services are shared between of the various gold plants within the Vaal River Operations, located near Orkney in the North West province. The audit therefore started when the first of these shared services was visited and completed when the plant visit was completed.

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 Cyanide Production and using standard and accepted practices for health, safety and environmental audits.

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Name of Facility	Signature of Lead Auditor	Date

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PRINCIPLE 1 – PRODUCTION

Encourage Responsible Cyanide Manufacturing by Purchasing from Manufacturers that 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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 1.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 1.1; to 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. AGA has a contract with Sasol Polymers (the only producer of liquid sodium cyanide in South Africa) for the supply of liquid sodium cyanide. An amendment of the contract states that the producer must be ICMI certified. Sasol Polymers cyanide production facility in South Africa was recertified on 7 May 2013.

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PRINCIPLE 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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 2.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 2.1; to establish clear lines of responsibility for safety, security release prevention, training and emergency response in written agreements with producers, distributors and transporters. An agreement exists between Sasol Polymers (cyanide producer), Tanker Services (cyanide transporter) and AGA dated 3 May 2012. The agreement states that Tanker Services must be ICMI certified. Tanker Services was certified on 13 December 2011. The Agreement includes the following: details of the tankers used; a requirement to comply with national legislation; duties and responsibilities of the transporter including; safety, maintenance, training, security, offloading and emergency response. The training matrix for Tanker Services was observed showing that the training for all drivers is up to date. No subcontractors are used and there are no stop overs for the tankers. A transport route risk assessment is undertaken by Sasol Polymers and this is reviewed every two year with the most recent version dated 24 January 2012.

Standard of Practice 2.2:

Require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 2.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 2.2; to require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management. Group wide cyanide supply contract covering all AGA Gold Plants is in place with Sasol Polymers as the sole supplier of liquid sodium cyanide in South Africa. Sasol was responsible for the transport of cyanide to Kopanang Gold Plant until July 2011 when SiLog (Sasol's transport services) and its physical assets were sold to Tanker Services who started transporting liquid sodium cyanide from Sasol Polymers to the gold plants from July 2011. Amendment no 6 LSA12 (1) 1 Jul 2006 to contract JG043001 requires the producer, supplier of cyanide to be a signatory to the ICMI Code and the producer, supplier and transporter to be ICMI certified. Tanker Services became a certified ICMI transporter on 13 December 2011.

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The break in ICMI certification of the liquid sodium cyanide transportation is deemed acceptable by the auditors as the interim cyanide risk was minimal because: the new transporter took over all of the transporter resources of ICMI transport certified SiLog (dedicated bulk cyanide liquid tankers, trained and experienced owner-drivers and contract drivers, assessed route risk assessments, cyanide documentation and systems) and was, and still is, covered in terms of Sasol's Product Stewardship and Responsible Care policies by the Sasol cyanide emergency response system (24 hour emergency control room, network of cyanide trained, emergency response spill and medical response service providers), dedicated cyanide tanker storage area and cyanide tanker decontamination facilities. Delivery notes (chain of custody records) for the three year re-certification period were observed showing that the liquid cyanide was transported directly from the Sasol Polymer cyanide production facility to Kopanang Gold Plant with no stop overs.

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PRINCIPLE 3 – HANDLING AND STORAGE

Protect Workers and the Environment during 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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 3.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 3.1; to 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.

Original drawings were verified during the 2007 Certification Audit.

No material changes to engineering design or practices have been undertaken at the Plant in the last three years. The following documents were observed showing the facility has been designed and constructed in accordance with sound and acceptable engineering practices: Bateman Africa “Structural Condition Report on the Kopanang Plant” October 2011 (conducted every two years) conducted by Uwe Goldbeck (Pr Eng 970479); “Bulk Storage Facility Technical Inspection Report” 8 January 2013 (audit of cyanide storage facility undertaken by Sasol Polymers every 2 years).

The offloading area for the liquid sodium cyanide is closed off with restricted access, installed on a concrete surface equipped with humps and drains to contain any spills. The drainage for this area is to a spillage sump equipped with a pump, which delivers any liquid into the main bund area for the sodium cyanide storage tanks from where it can then be pumped to any other part of the Plant. The pump is manually started prior to offloading and is run during coupling and uncoupling. There are no public areas close by. There are no surface waters or drainage to surface waters in the cyanide storage area or the Gold Plant as a whole.

Plant procedures state that liquid sodium cyanide may only be offloaded if the level in the storage tanks is less than 55% otherwise approval from the Production Metallurgist must be obtained. Tank level indicators, display at the tank site and SCADA in the Control Room. High level alarms set at 85%, interlocked with air valve to stop offloading at 85%.

Cyanide storage tanks are equipped with ventilation pipes and located within a metal framework above a concrete bunded area. The secondary containment areas for the liquid cyanide storage tanks and the leach tanks are constructed of cement and appropriately lined. There are covered secondary containment launders on cyanide feed pipes. Pipes installed inside launder drain to the cyanide storage main bund area. The liquid cyanide offloading and storage area is placed away from incompatible materials explosives and apart from foods, animal feeds and tobacco. There is restricted access to the area in addition to it being located with the Gold Plant which has security fencing around it and has strict access control.

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Standard of Practice 3.2:

Operate unloading storage and mixing facilities using inspections, preventative maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 3.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 3.2; to operate unloading storage and mixing facilities using inspections, preventative maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

Liquid sodium cyanide is delivered in bulk tankers from Sasol Polymers to the Gold Plant and offloaded into cyanide storage tanks. No solid cyanide is used on the plant therefore the only containers are the tankers themselves the outside of which are washed during the offloading process and on their return to Sasol's premises.

Procedures were observed on the "Offloading of Cyanide", "Cyanide PPE Requirements", and "Buddy System". The Offloading of Cyanide procedure states that; both the tanker driver and off-loader is present during the off-loading, both driver and off-loader must wear PPE (as defined in the Cyanide PPE Requirements procedure) and Personal Monitoring Equipment, and the role of the buddy is defined.

The operational procedures provide for safe operation of all valves and couplings during off-loading.

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PRINCIPLE 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 including contingency planning and inspection and preventative maintenance procedures.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.1; to implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventative maintenance procedures.

Kopangang 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. This is in addition to a Code of Practice for the TSF and Cyanide Guidelines for the South African Region of AGA.

The operating pH for the Gold Plant was changed from 10.5 to 10.0. The change management process for this was observed.

The "Procedure to follow when High WAD Cyanide levels are measured in the residue slime" VRKGP/CN/30S Rev 08 Aug 2013 shows that the tailings facility management is informed if the concentration of WAD cyanide in the tailings leaving the Plant exceeds 40 mg/l. An alarm is given if the concentration of WAD cyanide in the tailings exceeds 50 mg/l. On line monitoring shows the Plant management the operating parameters for WAD cyanide in the tailings in real time. Freeboard and design storm event (1.3 m and 1:50 year storm event respectively) is defined in the "Code of Practice" for the tailings facilities (TSFs).

The SAP system for the Plant was demonstrated by Business Process Framework team who are responsible for planned maintenance. The SAP system covers all the planned maintenance work since April 2013. Prior to this a Computerised Maintenance, Management and Information System (CMMIS) was used. All plant equipment have been moved from one system to the other. Information under CMMIS has been retained as excel spreadsheets.

A range of inspections are also undertaken including the following: "Daily Cyanide Storage Facility Checklist"; Plant SHE Officer conducts a legal inspection every 15 days; "Daily Tailings Inspections" by Frazer Alexander Tailings (FAT) and Cyclone Projects (both organisations are subcontractors managing the TSFs) of the TSFs; two yearly Stability Analysis of TSFs; Annual Internal Audit on all TSFs. These inspections include unloading, storage, mixing and process areas. These inspections are documented including the date of the inspection, name of the inspector, any observed deficiencies and the date of corrective actions.

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The Plant has a change management process "Change Management Procedure" SP/SHE/s/029, Rev 6, November 2012.

The operations have the following procedures for when there is a deviation from standard operations: "Follow when high WAD Cyanide Levels are Measured in the Residue Slime" VRKGP/CN/30S Rev 08 Aug 2013; "Follow when Cyanide Freezes in Pipelines" VRKGP/CN/31S Rev08 Aug 2013; "Pipeline failure Procedure" P/SHE/e/015 Rev 0 February 2012 and "Procedure to operate Return Water Dams" VRTM-CN013 Rev 06 May 2013. In addition mini risk assessments are undertaken prior to any work being undertaken during the monthly shutdowns.

The current emergency generator at the Gold Plant provides power to keep the thickeners operating in the event of a power failure. All movements of cyanide solution and slurry are moved around the plant by pumps. In the event of a power failure all of the solutions etc. remain in their appropriate tanks with no release to the environment. The emergency generators are tested and inspected on a weekly basis by the Electrical Department, which is recorded on the inspection register (Diesel Emergency Generator IS/SHE/s/105) There is also a generator test during shut downs and a yearly SAP (Maintenance Flag for a full service.)

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.2; to introduced management and operating systems to minimise cyanide use, thereby limiting concentrations of cyanide in mill tailings.

AGA conducted a Workshop in Nov 2010 and Dec 2012 with Afritech on Cyanide Optimisation. A Cyanide Optimisation Programme for Surface Sources Kopanang Gold Plant was compiled. The current control philosophy for Kopanang Gold Plant is a holistic control philosophy rather than a cyanide only control. It includes the control of process parameters (thickener density, pH, slurry flow, and cyanide addition control with TAC1000).

The newly implemented Remote Operations Control (ROC) system (and advanced data collection system and monitoring station) monitors the instrumentation outputs, which is stored in a data collector. This includes a TAC1000 on line analyser to measure cyanide addition in the head leach tank and a TAC2000 to monitor terminal cyanide in the Leach Residue before it leaves the Plant. Control charts are compiled for performance parameters. Upper control limits (UCL) and lower control limits (LCL) for performance are set. Notification emails and sms are sent in an escalation sequence when the upper or lower limit is breached ultimately culminating in a notification to the Regional Vice President if there is no improvement after 48 hours. Graphs for WAD cyanide (UCL 50 ppm), cyanide addition, and pH (running very tightly on 10) were observed.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.3; to implement a comprehensive water management programme to protect against unintentional releases.

A probabilistic water balance for the TSFs and Plants in the Vaal River Region is run on GoldSim using a 1:50 year 24hr storm event for the design scenario.

A meteorological assessment was conducted by an Aurecon, 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. Run-off factors from this study are incorporated into the water balance.

Input into the GoldSim is updated at least once a quarter. The following are included; slurry tonnage deposition onto each dam is included in the sheet; daily recorded rain measurement taken at each TSF, precipitation levels for a 1 in 50 year storm event; and monthly S Pan evaporation values, gold plant specific hydrological assessment.

The model has the capability to run different scenarios such as electricity cuts (no facility to pump water back to the plants) and to determine if certain dams will overflow in certain rainfall events. Also where solutions will be discharged in a certain scenario such as a major storm water event, inflow of additional water source.

Cyclone Engineering Projects is contracted for emergency pumping using mobile generators in the event of a power failure. Letter VRO131/13 August 19, 2013 agreeing to provide pumps to AGA as required was observed. This is used on a periodic basis by AGA.

TSF Freeboard is surveyed monthly as per the "Mandatory Code of Practice Mine Residue Deposits Vaal River Tailings" Ref No. COP/SHE/t/002, May 2013 Rev. 2.

Phreatic level measured and stability analyses conducted every two years, with recommendations made on freeboard and pool management.

It is noted that all ponds and impoundments at the time of the audit were operated with adequate freeboard as detailed in the documents observed.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.4

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.4; to implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

The TSFs receive slurry containing less than 50 mg/l WAD cyanide except during abnormal situations. The open water in the return water dams have a WAD cyanide concentration of less than 50 mg/l and therefore do not require any special measures to restrict access by wildlife. If tailings are measured at the plant to have a WAD cyanide concentration of higher than 50 mg/l the TSF is informed and emergency procedures implemented to scare way any animals or birds and to ensure the hydrogen cyanide levels are within occupational exposure limits i.e. below 7.5 ppm. WAD cyanide levels in open water are then measured. No WAD cyanide levels have been recorded above 50 mg/l.

There have been two wildlife mortalities which were recorded in the last three years but none have been linked to cyanide. Any wildlife mortalities found close to TSF ponds or Return Water Dams are sent away to the Veterinarian Institute for toxic analysis. One bird (flamingo) was found dead on 16 September 2013, the report is still awaited from the Veterinarian Institute but has verbally been confirmed that it is not due to cyanide. One dead cow death found on 6 September 2013 at Mispah TSF - Incident No: MET/06092013/H&S/M/069-13 VR Tailings, Mispah 2 TSF. The Report is still awaited from the Veterinarian Institute. It has verbally been communicated that this death was not due to cyanide but "sour stomach" from eating maize.

There are no leach heap operations.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.5

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.5; to implement a comprehensive water management programme to protect against unintentional releases.

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. Legal discharge points are Eye dam sump and Boat Club sump. The water at these points although legally able to be discharged to the Vaal River are not discharged but recycled back to the operations for use as process water due to the lack of available process water. There is no established mixing zone. The only discharge in the last three years was

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from the Boat Club sump (March 2011) due to flooding of the Vaal River. At the time of the flood the monthly analysis shows the WAD cyanide levels to be <0.02 mg/l.

Seepage from tailings facilities are intercepted by a system of trenches and boreholes, this water is pumped to storage facilities before being used in the gold plants for the Vaal River area as process water. Monitoring is conducted upstream and downstream of the gold plants and associated infrastructure on the Vaal River and the Schoon Spruit (Schoon River). The majority of the monitoring on both rivers show WAD cyanide levels to be between 0.02 mg/l and <0.02 mg/l. The downstream values for the Vaal River only exceeded this on one occasion when WAD cyanide was 0.03 mg/l upstream of the facilities and 0.06 mg/l downstream of the facilities. The downstream values for the Schoon Spruit exceeded 0.02 mg/l on two occasions. On both occasions the upstream concentration was <0.02 mg/l with the downstream concentration being recorded as 0.74 mg/l on both occasions. With both incidents having an identical reading and no subsequent increases in concentration it is believed that these levels may be due to an analytical or recording error. Elevated concentrations have not been recorded since June 2011.

The instances when downstream concentrations of WAD cyanide have been recorded as being above 0.022 mg/l appear to have been isolated instances with no causal link established. Therefore no remedial action has been required to prevent further degradation.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.6

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.6; to implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.

Mining processing plants process water is the only beneficial use of groundwater, all other water for domestic and livestock use in the immediate area is supplied from the local potable water supplier, Midvaal Water Company. Groundwater monitoring results associated with the TSFs since 1 Jan 2011, that were observed, did not exceed 0.03 mg/l for Mispah TSF and 0.02 mg/l for West TSF. Therefore no remedial action is deemed to be necessary

Seepage from the TSFs is managed through a number of measures including the following: lining of trenches for the transportation of process water; boreholes adjacent to Vaal River to intercept seepage from TSFs; sub surface perforated pipeline that discharges into Boat Club sump before being pumped to the plants; and various areas of woodland adjacent to TSFs planted to undertake phytoremediation of shallow groundwater.

The pollution control dams at Kopanang Gold Plant are lined and therefore there is no seepage associated with them. The mill tailings from Kopanang Gold Plant are not used as underground backfill.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.7

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.7; to provide spill prevention or containment measures for process tanks and pipelines.

The offloading area for the liquid sodium cyanide is closed off with restricted access, installed on a concrete surface, and equipped with humps and drains to contain any spills. The drainage for this area is to a spillage sump equipped with a pump, which delivers any liquid into the main bund area for the sodium cyanide storage tanks from where it can then be pumped to any other part of the Plant. The pump is manually started prior to offloading and is run during coupling and uncoupling. There are no public areas close by. There are no surface waters or drainage to surface waters in the cyanide storage area or the Gold Plant as a whole.

There are covered secondary containment launders on cyanide feed pipes. Pipes installed inside the launders drain to the cyanide storage tank main bund area.

All liquid cyanide storage tanks or cyanide process tanks are located within concrete lined bunds which provide storage greater than 110% of the largest tank directly or in combination with the concrete lined pollution control dams which are connected to the bunded areas through concrete lined and covered drainage channels. Any cyanide solutions within any bunded area or the pollution control dams are returned to one of the storage tanks or the TSFs.

For pipes transferring tailings from the Plant to the TSFs and the transfer of process water from the TSFs a pipeline maintenance strategy was observed which has been formulated for implementation from October 2012 in order to reduce pipeline failures with thickness measurements undertaken and where necessary pipes replaced. All slurry lines when replaced are replaced with HDPE lined pipes. Any spills from slurry pipes are cleaned up as soon as possible in accordance with "Pipeline Failure Procedure" (P/SHE/e/015) dated February 2012.

There is one area where the slurry lines from Kopanang Gold Plant crosses the Vaal River and this had been identified as a potential risk. Special protection measures have been implemented including the lining of all slurry pipes crossing the bridge with polyurethane. Polyurethane was used rather than HDPE as it is harder wearing. Containment paddocks are in place either side of the river to prevent any spillage from entering the Vaal River. The lines are inspected as part of the pipeline patrols for each shift. Notice boards with emergency numbers are placed at the river crossing for reporting any leaks to management.

Pipelines are steel with possible linings of HDPE or polyurethane. These materials are compatible with cyanide and high pH conditions.

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.

in full compliance with

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

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.8; to implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

Original drawings and the quality assurance process for these designs were verified during the 2007 Certification Audit. No material changes to engineering design or practices have been undertaken at the Plant in the last three years.

A number of inspections have been undertaken of the plant and the TSFs by an appropriately qualified person with subsequent reports concluding that their continued operation is within established parameters and therefore protect against cyanide exposures and releases. These include: Bateman Africa "Structural Condition Report on the Kopanang Plant" October 2011; "Annual TSF Audit Report" for August 2013, "SLR Global Environmental Solutions Vaal River and West Wits Operations Tailings Storage Facility Freeboard Assessments", "Vaal River Operations Mispah Tailings Storage Facility - Review of Piezometers and Stability of Mispah TSF's", and "SLR AGA Vaal River Operations West Complex Compartment 4 TSF Review of 2012 Ground Investigations and Revised Geotechnical Stability Assessment".

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

in full compliance with

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

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.9; to implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and groundwater quality.

Written procedures have been developed for monitoring including the following: "Water Management Procedure 2 - Groundwater Sampling" (SAR/EM/W/002); "Water Incident Sampling Procedure" (SAR/EM/W/005); "Procedure to Follow When High WAD Cyanide Levels are Measured in the Residue Slime" VRKGP/CN/30S Rev 08 Aug 2013; and "Sampling Procedure for Specialised Speciation and Environmental Samples" (VRTM-CN08) dated May 2013.

These procedures include how and where samples should be taken, sample preservation techniques, chain of custody procedures and cyanide species to be analysed.

MINTEK cyanide specialist chemist originally developed the "Sampling Procedure for Specialised Speciation and Environmental Samples" (VRTM-CN08) dated May 2013 for sampling of contaminated soils and solutions. MINTEK is South Africa's national mineral research organisation specialising in mineral processing, extractive metallurgy and related areas.

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Sample log sheets were observed showing that sampling conditions including weather, temperature, precipitation, animal activity and anthropogenic influences are recorded.

The operation monitors for cyanide in discharges to surface water from the Eye Dam sump and the Boat Club sump on a monthly basis. Cyanide monitoring is undertaken in the Vaal River and the Schoon Spruit upstream and downstream of the AGA Gold Plants and associated infrastructure in the Vaal River Region on a monthly basis. Groundwater is monitored up-gradient and down-gradient of the gold plants and the TSF on a 6 monthly basis. Monitoring of WAD cyanide in tailings leaving the Gold Plant is monitored on a continual basis.

The Gold Plant inspects for wildlife mortalities on a daily basis, none have been recorded in the last 3 years. Wildlife mortalities are inspected for on the TSFs where the results are recorded in the daily logs. Wildlife mortalities are also inspected by the pipeline patrols on the patrol check sheets. Two wildlife mortalities have been found in the last 3 years, neither of which has been associated with the ingestion of cyanide.

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PRINCIPLE 5 – DECOMMISSIONING

Manage Cyanide Process Solutions and Waste Streams to Protect Human Health and the Environment

Standard of Practice 5.1:

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

in full compliance with

The operation is

in substantial compliance with

Emergency Response Practice 5.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 5.1; to plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

The operation has the following documents for the effective decommissioning of the facilities including cyanide facilities, which are reviewed on a regular basis:

“Procedure for Closure / Decommissioning” VRKGP/CN/47S Rev 08 August 2013 describing the actions to be undertaken 12, 6 and 3 months prior to and during closure and decommissioning.

“Kopanang Gold Plant Procedural Hazop Study for Closure / Decommissioning” - KGP892 16/07/2006.

Chapter 38: Basic Demolition Practices of the “South Africa Region Metallurgy (SARM) Cyanide Code Implementation Guidelines”, July 2013, Rev 06 describes the process to following during decommissioning.

Standard of Practice 5.2:

Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 5.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 5.2; to establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

The premature closure liabilities for Kopanang Gold Plant for 2012 have been calculated. Costs include the demolition of cyanide storage tanks, leach tanks and off-loading facilities (in addition to all other aspects of the Gold Plant) as well as the decontamination and removal of cyanide. The costs have been obtained from third party contractors and then escalated on an annual basis.

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AGA has established a Trust Fund and Bank guarantees to provide for the closure liability costs. Ernst and Young Accountants audit the financial calculations as well as the income of the trust fund on an annual basis.

Observed AGA Environmental Rehabilitation Trust Annual Report 2012, signed by Director of Ernst and Young 26 June 2013. The overall opinion stated in report was that the information on the calculations and trust fund presented was fair for 31 Dec 2012 and in accordance with International Financial Reporting Standards.

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PRINCIPLE 6 – WORKER SAFETY

Protect Workers' Health and Safety from Exposure to Cyanide

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 6.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 6.1; to identify potential cyanide exposure scenarios and take measure as necessary to eliminate, reduce and control them.

The operation has a large number of procedures describing how cyanide-related tasks such as unloading, mixing plant, operations, entry into confined spaces, and equipment decontamination prior to maintenance should be conducted to minimise worker exposure. These procedures include personal protective equipment and address pre-work inspections e.g. "Cyanide PPE Requirements" VRKGP/CN/09S Rev 8 August 2013.

The Gold Plant has "Change Management Procedure" SP/SHE/s/029 Rev 6 November 2012 in order to review proposed process and operational changes and modifications for their potential impacts on worker health and safety, and incorporate the necessary worker protection measures.

Worker input in developing and evaluating health and safety procedures is undertaken through monthly Plant SHE Meetings. Policies and Procedures are a dedicated agenda item included within these meetings. In addition risk assessments are conducted and reviewed prior to the compilation or revision of procedures and then training is undertaken on the new procedures. Feedback is solicited at all stages of the risk assessment and training.

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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 6.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 6.2; to operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

The operation has determined the appropriate pH limiting the evolution of HCN gas. This used to be a pH of 10.5 but has recently been lowered to 10.0. Change process with regards to this was observed.

The Code of Practice for Occupational Hygiene, dated 10 October 2013 includes baseline monitoring of known pollutants within the Plants and the TSFs. A risk assessment for each pollutant for each area of the plant was then undertaken using this monitoring data. No areas were identified where levels of 4.7 ppm continuously over an 8 hour period were identified.

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Monitoring of worker exposure to HCN gas was undertaken as part of the change management in order to confirm that controls are adequate to limit worker exposure. The Occupational Hygienist conducted Hot Spot monitoring on 26 August 2013 in response to change in pH and max reading was 1.8 ppm at No. 1 Leach dosing point and the TWA was 0.19 ppm at the No.1 Leach dosing point.

PAC 7000 ambient personal monitoring devices are used on the TSF if the TSF is notified by the Plant that the concentration of WAD cyanide in the tailings exceeds 50 mg/l. Monitoring did not show elevated levels of HCN on the TSFs during these periods of high WAD cyanide in tailings from the Gold Plant. Workers are protected from dust by the use of appropriate PPE (dust masks) as detailed in the risk assessment undertaken as part of the Job Template Analysis

"The Code of Practice for Occupational Hygiene", dated 10 October 2013 includes baseline monitoring of known pollutants within the Plants and the TSFs. A risk assessment for each pollutant for each area of the plant was then undertaken using this monitoring data. In addition to this a HAZOP for each plant has been undertaken to identify gaseous hotspots at the plant. Hot spot monitoring showed concentrations at "Kopanang Plant Leach Cyanide" dated 10 September 2013 - maximum result 1.6 HCN ppm.

All monitoring devices observed during site visit were observed to be calibrated. Monitoring equipment is calibrated by Drager on a quarterly basis although it is only required by the manufacturer to be calibrated on a six monthly basis. Calibration certificates were observed.

Signs were observed in areas where cyanide is used e.g. offloading point for liquid sodium cyanide storage tanks and dosing points for leach tanks. The signs are placed to warn that cyanide is present, that smoking is prohibited, no open flames or eating and drinking are allowed and the PPE that must be worn. Signs are placed at TSF sides and at the penstock prohibiting the drinking of the water, instructing on what PPE must be worn, and prohibits unauthorised entry.

There is a procedure for checking emergency showers and eye washes procedure "Check Emergency Safety Showers in the Plant" VRKGP/CN/19s Rev 08 August 2013 and an associated checklist. Showers were observed to be working during site visit. Fire extinguishers were last checked on 1 October 2013, they are checked monthly by the Fire Incident Commander.

Pipes at the Gold Plant are identified through colour coding and labelled with direction of flow. Pipes carrying tailings are labelled as toxic /poisonous water with a skull and cross bones and not potable water pictogram at culverted areas.

The Sodium Cyanide Solution MSDS in English (official language of AGA) is on the outside of the cyanide liquid storage tank area. It includes the first aid procedures, safe handling and storage, personal protection, etc.

No cyanide exposure incidents have been recorded in the last 3 years. Any incident is announced to all South Africa Metallurgy Business Unit. Any incident is investigated by a team including the Cyanide Champion. The timeline (including photographs) is reconstructed. Assesses the cause of the accident and then compile remedial actions. Actions are loaded into the Risk Management System (RMS) to track the actions that are undertaken.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 6.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 6.3; to develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

It was observed that First Aid rooms at Cyanide Storage Area, at top of Leach and at top of CIP/Residue contain water, oxygen, antidote kits, radio and telephones are available for use.

In the event of an emergency at the TSF the Shift Forman will be immediately informed who will then call ER24 (ambulance and paramedic service) and at the same time informs 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. This is detailed in "Procedure for Notification of Cyanide Exposures to Vaal River Tailings Employees" (VRTM-CN02) dated May 2013.

"Daily Inspection of Cyanide Storage, dosing Equipment and First Aid Facilities" VRKGP/CN/25S Rev 08 August 2013 requires the contents of the first aid rooms to be inspected daily. ER 24 inspects their cyanide PPE kits on a daily basis. Observed SA Metallurgy "Tricopacs Cyano and Hypo Solution Expiry List", Sept 2013, kept by Reagent and Risk Manager. All packs now have the same expiry date and were observed to be within expiry date.

"Kopanang Gold Plant Emergency Preparedness and Response Plan, EPP Kopanang Gold Plant", Rev 08, August 2013 stipulates the roles and responsibilities, plan maintenance and change management, escalation points and incident levels, plan training and testing, emergency communication structure, and command centres. "Procedure for Notification of Cyanide Exposures to Vaal River Tailings Employees" (VRTM-CN02) dated May 2013 details the emergency response in the event of a cyanide exposure at any of the Vaal River Tailings facilities. Contractors on site e.g. FAT also comply with this procedure. Both ER24 and West Vaal Hospital use Chapter 42 of the "South Africa Region Metallurgy (SARM) Cyanide Code Implementation Guidelines", July 2013, Rev 06.

Cyanide Appointees having undertaken the relevant first aid training make up the First Aid team trained to conduct cyanide related first aid. ER24 (ambulance and paramedics) contracted by AGA is part of the emergency response for AngloGold Ashanti. The ER24 headquarters for the Vaal River area is located at Kopanang Gold Plant. ER 24 - 24 Hr Emergency Response have oxygen, resuscitator, radio and qualified personnel available to assist with any cyanide exposure incident

ER24 are contracted to provide emergency assistance and transport patients to West Vaal Hospital, which is owned and operated by AGA.

Procedure "Access of an ambulance in the event of a Cyanide exposure" VRKGP/CN/22S Rev 08 Aug 2013 details actions to be undertaken by the Gold Plant. "Procedure for Notification of Cyanide Exposures to Vaal River Tailings Employees" (VRTM-CN02) dated May 2013 details the actions to be taken at the TSFs.

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Full chain drill (i.e. from man down all the way through to treatment at the hospital) is conducted every six months rotated between the plants in the Vaal River area. Kopanang Gold Plant conducted its last full chain drill on 20 February 2013. This was well documented including photographs. Email sent two days later stipulated the lessons learned during drill with it being communicated between cyanide champion, training, security and Reagent and Risk Manager. Drills on the Plant are undertaken monthly for cyanide exposure or release. Cyanide drills are undertaken on VSF at 6 monthly intervals. Drill reports detail lessons learned and where necessary lessons are incorporated into response planning.

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PRINCIPLE 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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.1; to prepare detailed emergency response plans for potential cyanide releases.

“Kopanang Gold Plant Emergency Preparedness and Response Plan, EPP Kopanang Gold Plant” Rev 08 August 2013 (EPP). The plan stipulates the roles and responsibilities, plan maintenance and change management, escalation points and incident levels, plan training and testing, emergency communication structure, command centres.

“Procedural Hazop Study for Kopanang Gold Plant for Emergency Scenarios Assessment for Kopanang Gold Plant” dated 08/03/2010 Rev 2 KGP 934 includes various scenarios identified for cyanide related emergencies.

Within the EPP there are a number of cyanide specific emergency procedures (15), and general emergency procedures (18). which stipulate specific actions to be undertaken including as clearing site personnel and any 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. These procedures include actions to be undertaken in the event of catastrophic releases of hydrogen cyanide from storage or process facilities; releases during unloading and mixing; releases during fires and explosions; pipe, valve and tank ruptures; overtopping of ponds and impoundments; power outages and pump failures; failure of cyanide treatment systems; and failure of cyanide facilities.

Transport accidents are considered in Sasol Polymer procedure for "The Procedure for the Handling of Dangerous Goods Transportation Incidents Involving Sasol and Sasol Service Provider Vehicles" - SSP-S-009 Rev 2 Date 14 December 2012;

“Cyanide Tankers Escort Sec-068” (APCP-CYN01) Rev 02 dated 09 October 2010 revised Aug 2013 - stipulates the process to be followed by security to visually inspect and transport the tanker from Central Salvage to the Gold Plant over the No. 8# Vaal River Bridge. It stipulates the steps to take in the event of leakage or road accident.

Overtopping of ponds and impoundments and failure of tailings impoundments, are considered in the following plans: “Vaal River Tailings Emergency Preparedness Plan - No.2 Tailings Plant Manager EPP”.

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“Procedural Hazop Study for VR Tailings” VRT EP 071206 Rev 6 Aug 2013 - Emergency Scenarios Assessment for Vaal River Tailings, assessed and listed the potential cyanide emergencies relevant to Vaal River TSF.

Emergency Plans are reviewed every 3 years.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.2; to involve site personnel and stakeholders in the planning process.

Worker input into the cyanide emergency response planning is undertaken through monthly Plant SHE Meetings. Policies and Procedures are a dedicated agenda item included within these meetings. Minutes for the following meetings were observed for 27 July 2011, 04 May 2012, 25 February 2013 and 28 June 2013. An attendance register was also observed for 5 February 2013 and 28 June 2013 showing those listed in the minutes who attended the meeting. Attendees included Worker Health Safety Steward (WHSS). Information is then cascaded down to plant workers through daily 'One Team' meetings, which are undertaken at the start of shifts to discuss pertinent issues including feedback from Plant SHE Meetings.

The Chief Fire Officer, Business Services (the only permanent member of the AGA fire crew) liaises with local authority emergency response teams who provide feedback on cyanide emergency response planning on behalf of potentially affected communities. The Chief Fire Officer has been asked to be the Chair of the regional municipal Disaster Management Committee. Monthly meetings between the Chief Fire officer and the Assistant Director or Fire and Safety are due to resume after a 2 year gap as there has been a new appointee to the position of Assistant Director or Fire and Safety.

Sasol Polymers undertake a cyanide road show along the cyanide tanker transportation routes in association with the Gold Plants. The latest road show was 15 July 2012 in Midvaal. The Reagent and Risk Manager attended on behalf of AGA. These road shows allow communities to provide feedback on the emergency planning process.

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 can be distributed electronically or in paper format on request. Boards showing this information have been put up inside the Gold Plant and at the TSFs. The public being able to see the latter.

ER24 (contracted by AGA) and West Vaal Hospital (owned and operated by AGA) are involved in the emergency planning process and with the emergency drills.

The Emergency Preparedness Plans are reviewed every three years and as part of this review internal stakeholders are communicated with. “Kopanang Gold Plant Emergency Preparedness and Response Plan EPP Kopanang Gold Plant” was last reviewed in August 2013. “Vaal River TSF Emergency Response Plan” was last reviewed in July 2013. Where necessary, consultation is undertaken with stakeholders more often than this to keep the Plan up to date.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.3; to designate appropriate personnel and commit necessary equipment and resources for emergency response.

“Kopanang Gold Plant Emergency Preparedness and Response Plan” Rev 08 August 2013 stipulates the roles and responsibilities, plan maintenance and change management, escalation points and incident levels, plan training and testing, emergency communication structure, command centres. Section 6 Figure 6.1: Emergency Communication Structure illustrating the communication direction and responsibilities. The EPP states the list of supported equipment / resources required by the Incident Controller. Section 7.6.3 states the specialised Medical / First Aid Equipment. Section 7.7 states the Emergency Trailer rescue equipment. The EPP states that the Emergency Response Team consists of shift and/or other employees trained to respond to plant emergencies.

“South Africa Region Metallurgy (SARM) Cyanide Code Implementation Guidelines”, July 2013, Rev 06. Chapter 42 First-Aid & Medical Treatment of Cyanide Exposure states the West Vaal Hospital and ER24 requirements - Dr James Steel (West Vaal Hospital Manger) signed on 18 July 2013 to confirm commitment. Chapter 12 stipulates Training Requirements for Cyanide Appointees.

24 hour emergency telephone numbers are placed at every Telkom Telephone on the plant. Latest telephone list dated 27 August 2013.

Representatives of ER24 (paramedics and ambulance response) and West Vaal Hospital (AGA hospital) confirmed that they are aware of their involvement and that they are included in the drills.

“The Mass Incident Plan (External Disaster Plan)” ref AGAH/VR/EP/SOP/010, dated July 2012 compiled by Dr. J Pretorius (CMO Anaesthesia) details how West Vaal Hospital will respond to a cyanide incident.

The Chief Fire Officer, Business Services is informed of Man Down drills, however the fire crew is not directly involved as they do not have cyanide training. The Emergency Response Team for the Plant will respond to any cyanide emergencies.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.4

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.4; to develop procedures for internal and external emergency notification and reporting.

The EPP – Figures 6.1 and 6.2 illustrate the communication structure for level 1, 2 and 3 incidents. Also observed South African Region Metallurgy Cyanide / Chemical Emergency Contact Numbers dated 10 October 2013. All contact numbers are inclusive of SA Met Management, Plant Management, Emergency Response, West Vaal Hospital etc. The Emergency Response Plan for Vaal River TSF includes contact information for management, regulatory agencies, outside response providers and medical facilities. "Procedure Public Consultation and Disclosure / Emergency Communications" (VRTM-CN07) Dated May 2013 details how communications about an emergency are undertaken.

The only community in the vicinity of Kopanang Gold Plant is the high density accommodation for AGA workers. The EPP stipulates the escalation of incidents that will affect outside communities.

"Procedure Public Consultation and Disclosure / Emergency Communications" VRTM-CN07 dated May 2013 details how communications about an emergency are undertaken. This procedure states that "No employee, contractor or manager is permitted to communicate directly or indirectly with the press or general public". The process for external communication is detailed in "SHE Communication, Consultation and Participation" (SP/SHE/s/008) dated October 2012. Issues that could result in public exposure are referred to General Manager SA Region Metallurgy and Environmental Manager Environmental Management Department.

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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.5

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.5; to incorporate in response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

Specific remediation measures are included in the following procedures:

"Handling of Cyanide Spillage Procedure" - VRKGP/CN/06S - Rev 08 - Aug 13 - procedure spillage control of spillage inside and outside bunds. Neutralisation of small spills with ferrous sulphate;

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“Emptying of Cyanide Spillage Bund” - VRKGP/CN/28S - Rev 08 - Aug 2013; Decontaminated Cyanide Equipment addition to a mill - VRKGP/CN/34S Rev 08 Aug 13;

“Handling and Detoxification of Hazardous Chemical Spillages” VRTM-CN017 Rev 06 May 2013;

“Sampling Procedure for Specialised Speciation and Environmental Samples” - VRKGP/CN/40S Rev 08 Aug 2013 - Sampling of contaminated soils and solutions;

“Cyanide Equipment Detoxification/Decontamination Procedure” - VRKGP/CN/03S Rev 08 Aug 13 - decontamination of redundant engineering equipment or engineering equipment for repair;

“Dispose of Ferrous Sulphate from Cyanide Detoxification Area” - VRKGP/CN/29S, Rev 08, Aug 13 - disposal of ferrous sulphate at neutralisation of a spill; and

“Detoxification & Disposal of Cyanide Contaminated Waste & Debris” - VRKGP/CN/39S, Rev 08, August 2013 - removal and disposal of cyanide contaminated soil etc. to the mill.

Large quantities of pure cyanide spilled will be cleaned up by the Sasol Hazchem Team. Drinking water is supplied from Midvaal Water Company therefore alternative supplies are not required.

The prohibition of the use of ferrous sulphate, hydrogen peroxide or sodium hypochlorite when cyanide has spilled in to surface water is contained in the following procedures: “Handling of Cyanide Spillage Procedure” - VRKGP/CN/06s Rev 08 Aug 13; “Using Ferrous-Sulphate” - VRKGP/CN/49, Rev 08, Aug 13; “Handling and Detoxification of Hazardous Chemical Spillage” Ref No. VRTM-CN017 Rev 06 May 2013; and “South Africa Region Metallurgy (SARM) Cyanide Code Implementation Guidelines”, July 2013, Rev 06. Section 6 Chapter 41 point 4.16.

Sampling in the event of a release are detailed in the following procedures: “Sampling Procedure for Specialised Speciation and Environmental Samples” - VRKGP/CN/40S Rev 08 Aug 2013 – details process for sampling of contaminated soils and solutions including the methodology for sampling to be done as a result of a spillage as well as sampling parameters; and “Observed Pipeline Failure Procedure” PSHEe015 Rev 0. February 2012, this states that samples need to be taken at the point of impact, at the point where spill meets sensitive ecosystems and downstream of impact as well as dams that may have been affected (where spill is not contained).

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.6

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.6; to periodically evaluate response procedures and capabilities and revise them as needed.

Observed “Kopanang Gold Plant Emergency Preparedness and Response Plan”, Rev 08, August 2013- Section 3 Plan Maintenance and Change Management, section 3.1.2 states that the plan will be updated whenever there is a major change to the document. . A major change in the document includes but is not

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limited to the following: any emergency situation, significant changes to risk assessments including the cyanide route risk assessment, management changes or reallocation of responsibilities.

This is also detailed in procedure "Revision of Cyanide and Emergency Procedures" VRKGP/CN/51S, Rev 08, Aug 13. All procedures within the EPP are reviewed on a three yearly basis. All procedures within the Vaal River TSF Emergency Response Plan are reviewed on a 3 yearly interval, the next review being planned for May 2016.

Full chain drill (i.e. from man down all the way through to treatment at the hospital) is conducted every six months rotated between the plants. Kopanang Gold Plant conducted its last full chain drill on 20 February 2013. Observed schedule for in plant cyanide drills at the Plant - every month. The schedule includes the different exposure scenarios and the areas (e.g. top of leach, cyanide off-loading area) where it will be conducted.

The EPP Section 3 Plan Maintenance and Change Management states that "Changes to the document (i.e. the Emergency Preparedness and Response Plan) will be made after drills / exercises when hazards have been identified". No requirement to update the Emergency Response Plan has been identified after any cyanide related emergency as the Vaal River TSF has not had a cyanide related emergency in the last 3 years.

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PRINCIPLE 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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 8.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 8.1; to train workers to understand the hazards associated with cyanide use.

All AngloGold Ashanti staff entering the Plant 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 observed. Written tests are conducted for the induction and refreshers with a pass mark of 80%.

Contractors that will spend more than 3 days on the plant or if the contractor will be on the plant for less but will perform high risk work, will receive the same Induction Training as the employees. Contractors that will 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 received (green) where the training is due to expire within 3 months (yellow) and where the training is out of date (red).

The training for the plants within the Vaal River and West Wits areas are managed from a central training department. A plant training officer is present at each plant to undertake the plant specific training. Central training is responsible for induction training, maintaining the training matrix and as a moderator for plant specific training. Specialised training is done by outside training institutes.

All Cyanide Appointees and Off-loaders have a competency card showing that they are competent to work in cyanide areas (Cyanide Appointees and Off-loaders are certified to work in areas with risk of possible cyanide exposure) and the expiring date of their training. Training to be a Cyanide Appointee includes; Self Contained Breathing Apparatus (SCBA), St John's First Aid, PAC 7000, Cyanide Plant First Aid, Cyanide Offloading, Preparation for Maintenance, Induction Refresher and Emergency Response. Off-loaders in addition have training in cyanide offloading.

Refresher training of the Induction is undertaken every 18 monthly. Refresher training for Cyanide First Aid is undertaken every 12 months. Long term contractors' induction is refreshed annually. Other training refreshed 3 yearly or as detailed in specific individual training records.

Kopanang Gold Plant
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Signature of Lead Auditor

6 June 2014
Date



ICMI CYANIDE RE-CERTIFICATION AUDIT - SUMMARY REPORT

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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 8.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 8.2; to train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

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 defines what training each worker receives based on their position and the tasks required of that position. The training matrix indicates when the validity of an assessment will expire by turning the green block yellow 90 days prior to expiry.

All employees and permanent contractors are trained during the induction training prior to commencement of work related to cyanide. All employees receive Basic Cyanide First Aid Training during induction. Cyanide Off-loaders and Appointees are trained before working in areas where there is a potential for cyanide release. A Planned Task Observation (PTO) is undertaken the first time they are required to work in an area where there is a risk of cyanide release. All contractors who are due to work more than 3 days at the plant or who will be working in areas that have the risk of cyanide release undergo the 2 day induction including Basic Cyanide First Aid Training. Workers who will be working on site for less than 3 days are accompanied by an appropriately trained permanent employee. Once trained Cyanide Appointees and Off-loaders receive identification card with expiry date of training so that it can be confirmed that training is up to date before any permit to carry out work in an area where cyanide may be released is issued.

The training material for Cyanide Off-loading includes a wide range of modules including: Self Contained Breathing Apparatus (SCBA), St John's First Aid, PAC 7000, Cyanide Plant First Aid, Cyanide Offloading, Preparation for Maintenance, Induction Refresher and Emergency Response, and Cyanide off-loading. It covers normal off-loading as well as abnormal / emergency conditions that could occur during off-loading. The training matrix records which off-loaders received the off-loading training. After completion of the training, the off-loader is assessed at the plant by an assessor.

The competency assessment document used to assess compliance with the training for "Intermediate Cyanide First Aid Treatment" (MET-G 136) as part of the Cyanide Appointees and Off-loaders training was observed. It covers PPE requirements, identification of hazards and risks, symptoms of poisoning and first aid treatment. The details of the elements required per job as detailed in the training matrix include PTOs.

Refresher Basic Cyanide First Aid is conducted every 12 months. 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 3 years. Fire Incident Command is refreshed every 3 years. Cyanide Appointee and Off-loading training is refreshed every year.

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ICMI CYANIDE RE-CERTIFICATION AUDIT - SUMMARY REPORT

All trainers are qualified e.g. Vaal River TSF trainer - Mr Matube - Workplace Assessor - (ETDP SETA Accredited Service Provider), also completed various other courses on training management. Kopanang Gold Plant trainer - Mr Mathuloe - Workplace Assessor - (ETDP SETA Accredited Service Provider).

Observed certificate for Trainer Development Diploma for T.C. van Gent dated 18 November 2002.

Records of training undertaken for all employees and all contractors are kept for at least the life of the plant on the electronic EduCos system detailing; the employees name, the date of the training, and the topics covered. Hard copies of training for all employees and contractors are kept for at least the life of the plant. The hard copies in addition to the information kept on EduCos also show the trainer and how the employee demonstrated an understanding of the training material

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 8.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 8.3; to train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

All employees and contractors receive Basic Cyanide First Aid training during the induction training. Induction training presentation was observed.

The Emergency Response Team consists of Cyanide Appointees. Cyanide Appointees have all obtained a certificate in Self Contained Breathing Apparatus and Confined Space Rescue (SCBA) training.

The Medical Response Team (ER 24, Casualty Department Nurses) receive Intermediate Cyanide First Aid training. Casualty department nurses also receive Cyanide Poisoning Training at the hospital.

Refresher Basic Cyanide First Aid is conducted every 12 months. 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 3 years. Fire Incident Command is refreshed every 3 years. Cyanide Appointee and Off-loading training is refreshed every year.

The Emergency Drills are conducted at plant level. The plant training officer is present at all drills and evaluates training effectiveness. The review of the drill to assess that all personnel have the necessary skills and knowledge to ensure an effective response. Training procedures will be revised if deficiencies are identified. Plant training officer reports to AGA central training where any changes to training procedures are made and implemented. Record of Full Chain Drill, February 2013, showing that J Motsemme – Senior Training and Development Officer Metallurgy was present. J Motsemme stated that it had not been found necessary to change procedures in light of the drills (there are also monthly Plant cyanide drills) but training for individuals has been refreshed, on the job, in response to drills.

Records of training undertaken for all employees and all contractors are kept for at least the life of the plant on the electronic EduCos system detailing; the employees name, the date of the training, and the topics covered. Hard copies of training for all employees and contractors are kept for at least the life of the plant.

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ICMI CYANIDE RE-CERTIFICATION AUDIT - SUMMARY REPORT

The hard copies in addition to the information kept on EduCos also show the trainer and how the employee demonstrated an understanding of the training material.

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A handwritten signature in black ink, located above the signature line.

Signature of Lead Auditor

6 June 2014
Date

June 2014
Report No. 12614591



PRINCIPLE 9 – DIALOGUE

Engage in Public Consultation and Disclosure

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 9.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 9.1; to provide stakeholders with the opportunity to communicate issues of concern.

A person wanting to complain on an issue related to Kopanang Gold Plant can come to the plant security at the plant entrance. Security will escalate the complaint to Plant Management and Security will record the complaint in OB book (Occurrence Book) with all details of complainant and complaint.

In addition a school awareness campaign was run in October 2011 regarding the TSF facilities and the dangers they pose.

A visit was undertaken to site on the 19 July 2012 by grade 8 learners from Vaal Technical High School, Matlosana; Mayoral representative; and National Union of Mineworkers representatives.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 9.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 9.2; to initiate dialogue describing cyanide management procedures and responsively address identified concerns.

AGA provides information to its stakeholders regarding cyanide management through the following:

Annual Sustainability Reports that are available on the AGA website;

AuRa Newsletter that is distributed electronically and sent to stakeholders on request;

Visit to site on 19 July 201 by grade 8 learners from Vaal Technical High School, Matlosana; Mayoral representatives; and National Union of Mineworkers representatives;

Awareness campaign at primary and secondary schools in the Vaal River area 17 - 20 October 2011; and

Flyers distributed to communities in neighbouring areas regarding dangers of TSF;

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ICMI CYANIDE RE-CERTIFICATION AUDIT - SUMMARY REPORT

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 9.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 9.3; to make appropriate operational and environmental information regarding cyanide available to stakeholders.

Observed Cyanide Management Brochure for Processing Plants explaining what cyanide and ICMI are, the possible effects on the environment, and reasons for its use. This brochure is available for distribution by the Plant either electronically or in paper. This is displayed as a poster inside the plant. Observed Cyanide Management Brochure displayed as a poster on boards adjacent to TSFs where public have access. In addition the 2012 Country Fact Sheet – South Africa details the quantity of cyanide used and this is on the AGA website

The majority of the community in the vicinity of the AGA Gold Plants in the Vaal River Region are literate.

The number of reportable environmental incidents in South Africa (10) is reported in the 2012 Country Fact Sheet – South Africa, which is on the AGA website. The environmental incidents include Pipe and pump failures leading to spills of process water with cyanide concentrations below 0.5 mg/l WAD cyanide between Kopanang Gold Plant and the TSF. These failures did not affect any surface water. These incidents are reported to the Regulator (Department Water Affairs and Forestry Free State) putting it in the public domain. If any incidents lead to hospitalisation or fatalities the Regulator would also be informed placing the incidents on public record.

Kopanang Gold Plant
Name of Facility

Signature of Lead Auditor

6 June 2014
Date



Report Signature Page

GOLDER ASSOCIATES AFRICA (PTY) LTD.

Handwritten signature of Ed Perry in black ink.

Ed Perry
Lead Auditor

Handwritten signature of Marie Schlechter in black ink.

Marie Schlechter
Project Manager

Date: 6 June 2014

MS/EP/ag

Reg. No. 2002/007104/07

Directors: SAP Brown, L Greyling, RGM Heath

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