ICMI RE-CERTIFICATION SUMMARY REPORT

AngloGold Ashanti Savuka Gold Plant

Submitted to:
Louis LaGrange Lombard
AngloGold Ashanti
VR & West Wits Metallurgy
Private Bag X5010
Vaal Reef
2621

Report Number. 12614591
Distribution:
1 Copy - AngloGold Ashanti
1 Copy - ICMI
1 Copy - Golder Files

Report no. 12614591-12559–8
Table of Contents

1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS ................................................................. 2
2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION ........................................................................ 2
SUMMARY AUDIT REPORT ................................................................................................................................. 4
   Auditors Findings ........................................................................................................................................ 4
   Name of Other Auditors ........................................................................................................................... 4
   Dates of Audit ........................................................................................................................................... 4
PRINCIPLE 1 – PRODUCTION ........................................................................................................................... 5
PRINCIPLE 2 – TRANSPORTATION .................................................................................................................. 6
PRINCIPLE 3 – HANDLING AND STORAGE .................................................................................................... 8
PRINCIPLE 4 – OPERATIONS .......................................................................................................................... 10
PRINCIPLE 5 – DECOMMISSIONING ........................................................................................................... 20
PRINCIPLE 6 – WORKER SAFETY .................................................................................................................. 22
PRINCIPLE 7 – EMERGENCY RESPONSE ....................................................................................................... 26
PRINCIPLE 8 – TRAINING .............................................................................................................................. 31
PRINCIPLE 9 – DIALOGUE ............................................................................................................................ 34
1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Cyanide User Facility: Savuka 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
Address: AngloGold Ashanti,
VR & West Wits Metallurgy,
Private Bag X5010,
Vaal Reef,
2621
State/Province: Gauteng
Country: South Africa
Telephone: +27 18 478 9039
E-Mail: LLagLombard@AngloGoldAshanti.com

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.

AngloGold Ashanti’s Savuka Gold Plant is located in the Carletonville area, approximately 90 km South West of Johannesburg in the Gauteng Province, South Africa. It currently receives its feed sources from Savuka Waste Rock Dump and TauTona and Savuka Mines and has a maximum capacity to treat 250 000 tons of ore per month.

Underground ore is transported to the plant from Savuka Mine directly via conveyor belts. Ore is received from TauTona via railway and is processed through a screening plant for size distribution prior to crushing. The oversized material from the screens is crushed by conventional jaw, standard, short head and omnicone crushers before being conveyed to the milling plant.

The milling section is divided into 3 milling modules, viz. Carbon Leader, VCR (Ventersdorp Contact Reef) West and VCR East. Each module consists of two stage milling, with ball mills being the first stage and tube mills being the secondary stage milling, with the exception of VCR East which utilises pebble mills in the second stage. Cyclones are used for classification. In total the milling circuit consists of 8 ball mills, 32 tube mills and 2 pebble mills.

The mill product is then gravitated to the thickener section, which consists of 21 thickeners. Lime is added to the thickener feed launder as slaked lime. Lime aids in the settlement of the milled ore and maintains a protective level of alkalinity in the leach section. Flocculants are added to assist in the settling of the milled
ore. The thickened underflow slurry is pumped to the leach circuit and the thickener overflow water is used in the milling circuit.

The leach circuit consists of 2 process streams. Stream 1 consists of 32 pachucas, and Stream 2 consists of 6 pachucas. Sodium Cyanide (NaCN) is added to the circuit for the purposes of gold dissolution. The Pump-cell adsorption circuit consists of 8 mechanical agitated vessels. Granulated carbon is used as the adsorption medium. The carousel feed system is used on the pump-cell plant, with 1 vessel constantly offline.

The low-grade slurry (residue) is then screened for fine carbon and transferred to the residue tanks, where it is either pumped to the slimes dam or to the backfill plant, which supplies backfill to both Savuka and TauTona Mines. The backfill reject is thickened and pumped to the residue tank for disposal and the thickener overflow is reused at the backfill plant.

The loaded carbon is screened from the pulp and transported to Mponeng Gold Plant by road. Gold recovery from the carbon is completed at Mponeng Gold Plant and the regenerated carbon is transported back to Savuka Gold Plant. The Tailings Storage Facilities (TSFs) vary in age, some being long established. The TSFs are raised using the paddock and day wall system. This is the typical method used by the plants in the area.
SUMMARY AUDIT REPORT
Auditors Findings

☒ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

The International Cyanide Management Code

AngloGold Ashanti is:

Savuka Gold Plant

Audit Company: Golder Associates
Audit Team Leader: Ed Perry, Lead Auditor
Email: eperry@golder.com

Savuka 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 21 November 2013. The tailings facilities and other central services are shared between of the various gold plants within the West Wits Operations, located near Carletonville in the Gauteng province. The audit therefore started when these 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.

Savuka Gold Plant
Name of Facility
6 June 2014
Signature of Lead Auditor
Date

Golder Associates
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

☐ 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. The latest amendment of the contract states that the producer and transportation company must be ICMI certified. Sasol Polymers cyanide production facility in South Africa was recertified on 7 May 2013.
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

☐ 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

☐ 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 Savuka 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 July 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.
Version 10 of Contract Ref No. 4600000048 dated 10 November 2013 also states that the producer and transportation company need to be certified with the ICMI.

Tanker Services became a certified ICMI transporter on 13 December 2011.

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 Savuka gold plant with no stop overs.
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
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 3.1

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.

The only change to the Gold Plant in the last three years was when a change was made to the Cyanide Spillage Delivery Line to the pump sump. Drawing number 06022013-WW-03G-31-F0021 dated 07 October 2010 showing this change was signed off by the Production Engineer and Senior SHE Officer.

The following documents were observed showing an evaluation of the facilities by the relevant experts:

- “The Structural Investigation and Maintenance Management Report for Savuka Gold Plant” dated September 2013 conducted by Werner Reyneke (Pr. Eng. No. 20020226) from Tenova Bateman;
- “Sasol Bulk Storage Facility Technical Inspection Report” dated 12 October 2011 conducted by Philip Viviers; and,

The offloading area for the liquid sodium cyanide is on concrete, surfaced with bitumen, equipped with humps, kerbs, walls 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 into an appropriate stage of the process. There are no surface waters or drainage to surface waters in the cyanide storage area or the Gold Plant as a whole.

The following procedures were observed showing how the cyanide storage tanks are prevented from overfilling: “Offloading Procedure” WW/CN/OPS 5.18 Rev 08 May 2013 states that offloading may not take place if the level of the receiving tank is 53% or higher for one tank and 75% for two tanks. “High Cyanide Storage level alarm is sounded” WWA/CN/EMER 5.12 Rev 08 May 2013 includes the actions to be taken when the high level alarm sounds. "Functional Specs for Savuka Plant Cyanide Alarms and Control" No. 4 states when the cyanide tank levels that are indicated on the digital displays reach 100% the actual levels in the tank are 80%. This is in order to allow a 20% safety margin.

The cyanide storage tanks and carbon in leach tanks are located within separate concrete bunded areas, which act as secondary containment. A spillage pumps is located within the bunded area. The leach tanks are located above a concrete area, which will contain spillages. In the event of a tank failure this area drains to an HDPE lined pollution control dam.

Savuka Gold Plant
Name of Facility

Signature of Lead Auditor

6 June 2014
Date

June 2014
Report No. 12614591

8
The liquid cyanide storage tanks are each equipped with a ventilation pipe. The liquid cyanide storage tanks are in a fenced and locked area. In addition all storage and mixing tanks are located within the Gold Plant with entry being strictly controlled and the plant is surrounded by 3 m fences and razor wire.

The liquid cyanide storage tanks are not close to any incompatible materials and are situated in a bunded area to prevent the release of any liquid cyanide into an area where it could mix with any incompatible materials.

**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

☐ 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 Plant and offloaded into cyanide storage tanks. No solid cyanide is used on the plant therefor 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.

The following procedures were also observed showing: the operation of valves and couplings, the actions in the event of a spill, the PPE requirements when undertaking activities associated with cyanide, and the use of a buddy system when undertaking these activities. "Cyanide Off-loading procedure" WW/CN/Ops 5.18 Rev 08 May 2013; "Cyanide Delivery Line Leak" WW/CN/Emer 5.11 Rev 08 May 2013; "Hazardous Chemical Spillage Procedure" SAV/EN-03 Rev 03 May 2013; "Cyanide PPE Requirements" WW/CN/SHE 5.1 Rev 08 May 2013; and "Buddy System" WW/CN/SHE 5.13 Rev 08 May 2013.
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
☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 4.1

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.

Savuka Gold Plant has the following procedures:


West Wits Tailings have 24 Emergency Procedures. In addition there is the "Mandatory Code of Practice Mine Residue Deposits", the "Tailings Management Framework", and the "West Wits Tailings Storage Facilities Day Wall Paddock System Operating Manual".

The Savuka Gold Plant is currently run at a mean pH of 10.5. This was observed on graphs produced by the Remote Operations Centre (ROC) from data collected from the on-line pH analyser. The plant is currently investigating whether this can be lowered to a pH of 10.2 in line with other AGA gold plants in the area.

The addition of sodium cyanide is set at mean of 110 ppm (free cyanide). This set point was observed on the TAC 1000 monitoring the concentration of cyanide being added.

The upper control limit of the WAD cyanide in the residue sent to the tailings facility is set at 50 ppm. The procedure "High WAD Cyanide Levels are Measured in the Residue Slime" WW/CN/Emer 5.8 Rev 08 May 2013 states that if WAD cyanide is above 45 ppm the dilution water will automatically open and dilute the WAD cyanide. The shift foremen are to monitor the situation and notify the TSF Management if the concentration in the residue leaving the plant goes above 50 ppm. The degradation of cyanide in the pipeline between the plant and TSF has been measured at not less than 11%.

Pollution Containment Dams - Dam 3 is operated empty and has a capacity of 2,481 m³ in order for it to have sufficient capacity in the case of a leach tank (1,300 m³) rupturing.

Daily and Shiftly inspections are undertaken of the plant. The requirements for the inspections are detailed in the relevant procedures. In addition there is a SHE Officer 15 day inspection, monthly inspections of the cyanide storage tanks, and monthly inspections of the safety showers. The offloading area and cyanide storage tanks are inspected every two years by Sasol. There are also shiftly pipe patrol inspections for the pipes taking residue to the tailings facility.
Deficiencies and corrective actions are noted on inspection documentation, if action is required a job card is issued to undertake the necessary work.

All return water and storm water dam levels are visible in real time on Wonderware (SCADA system).

Stability analysis is conducted every 2 years on the West Wits tailings facilities with the relevant documents being observed. In addition there are monthly surveillance meetings for West Wits tailings facilities.

Maintenance at the Gold Plant was managed using the Computerised Maintenance, Management Information System (CMMIS). The maintenance documentation includes the equipment number and description as well maintenance frequency, inspection frequency, the task descriptions, the tools required, PPE requirements and relevant Risk Assessments. AGA moved from CMMIS to SAP in February 2013. All the historic data from CMMIS was moved over to SAP.

Preventative maintenance includes thickness testing of storage and mixing tanks undertaken every two years. The tanks are above 75% of their initial thickness in accordance with “Cyanide Plant Audits - Structural and Civil Investigations and Recommendations”.

Emergency power is available in the event of a power failure through backup generators to pump backfill to the mine and run the thickener rakes to ensure that pipes do not become choked. 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.)

Daily inspection of the Savuka TSF is undertaken as detailed in the tailings log books, including when high WAD levels are reported by the Plant to the TSF. There is also an annual inspection of the TSF by the Corporate Geotechnical Engineer.

The Gold Plant has the following procedures to identify when changes in a site’s processes or operating practices may increase the potential for the release of cyanide and to incorporate the necessary release prevention measures "Change Management" WW/CN/Admin 6.1 Rev 08 May 2018.

The equivalent procedure for the West Wits tailings facilities is “Change Management” WWTM-CN 11 Rev 06 May 2013.

The Plant and TSF have the following procedures to be followed when there is an upset in the water balance or when there is a temporary cessation in activities. "Cyanide Related Activities and Power Failures" WW/CN/OPS 5.4 Rev 08 May 2013 , "Flooding Procedure” SAV/EP-05 Rev 04 May 2013, "Procedure to follow during heavy rainfall / overtopping event" WWTM-CN09 Rev 06 May 2013, "Procedure to follow during a power failure" WWTM-CN12 Rev 06 May 2013.

If a temporary cessation of operations is due to an emergency event this will be managed in accordance with the Emergency Preparedness and Response Plan and Procedures.

The “The Structural Investigation and Maintenance Management Report for Savuka Gold Plant” dated September 2013 conducted by Werner Reyneke (Pr. Eng. No. 20020226) from Tenova Bateman; includes an inspection all tanks and Plant infrastructure for structural integrity and signs of deterioration, corrosion or leakage.

All liquid sodium cyanide and mixtures containing sodium cyanide is contained in tanks and pipes. If the power fails all liquids and mixtures will remain in their appropriate storage tanks and pipelines. No cyanide will be released into the environment due to the power failure.
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
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 4.2

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.

The following reports “Savuka Gold Plant Report Two The dissolution of Gold in the Leach Circuit”, and “Cyanide Optimisation Programme - Savuka Gold Plant” detail work that has been undertaken to improve the optimisation of process at the Gold Plant in order to minimise the use of cyanide. The following tests are also carried out to improve the optimisation: bottle roll tests; diagnostic leach sampling is done monthly and base metal recoveries.

The optimisation programme is seeking to reduce the variability of the process. The ROC graphs provide Upper Control Limits (UCL) and Lower Control Limits (LCL) as well as the mean for various parameters. The ROC graphs show the limits based on 99.7% of readings being between the two limits. This enables the plant to see the effect of any changes and to see how the management of the process is improving e.g. from 1 May 2013 the UCL for pH was reduced from 11.20 to 10.71 and the LCL was raised from 10.02 to 10.2.

On-going work to improve the process and thereby reduce the amount of cyanide used includes the following: TAC1000 out of spec notifications, monitoring of CN in water circuit, and lowering of pH from 10.5 to 10.2 (project still in investigation stage).

The plant uses a TAC1000 on line analyser to measure cyanide addition in the head leach tank and a Cynoprobe to monitor terminal cyanide in the Leach Residue before it leaves the Plant to go to the TSF. This is fed into the ROC on-line system so that all managers can see the data.

The addition of sodium cyanide is set at mean of 110 ppm (free cyanide). This point has been set as part of the optimisation program. If the setpoint is exceeded or if it is too low then metallurgical engineer is informed via sms and email.

If the concentration of cyanide in the residue is too high (above 45 mg/l WAD cyanide) or too low a cascading e-mail and sms system is used to inform managers of the situation ultimately including the Regional Vice President.

The following actions have also been undertaken: improved monitoring of the TAC 1000 system; hourly monitoring of the cyanide concentrations by the control room; pH Control by replacing the valve to ensure better lime addition, fine tuning of instrumentation, introduced air agitation for better mixing in Sampler Tank, if pH<10.0 cyanide dosing pump stops.
Standard of Practice 4.3: Implement a comprehensive water management programme to protect against unintentional releases.

☑ in full compliance with
☐ in substantial compliance with
☐ 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.

GoldSim Water Balance (a probabilistic water balance) was developed in 2010 and incorporates scenario planning to do water demand and water conservation strategy. Water balance input sheet 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.

Clean dirty separation studies (1:50 year storm event) data is fed into the GoldSim model in terms of dam sizes and overflows.

The 50 year storm event model run on GoldSim includes every plant and TSF, dam and catchment areas reviewed post 2009.

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. The model includes losses due to seepage, slurry and water to the TSF from the Plant and return water back to the Plant.

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.

Daily data collection and inspections are recorded on a spreadsheet for both Savuka and Mponeng TSF. Data collected over a quarter is used in the updating of the model.

Necessary freeboard is specified in “Mandatory Code of Practice Mine Residue Deposits Vaal River Tailings” Ref No. COP/SHE/t/002, May 2013 Rev. 2. The local legal requirement is a minimum of 0.8 m. the AGA standard is 1.3 m in order to reduce the risks of over topping. If necessary this is increased in accordance with the water balance calculations as detailed in the TSF monthly meeting minutes.

Operating levels and freeboard for pollution control dams were determined by the hydrological assessment conducted by Aurecon in 2009. These levels are included in the Water Balance as fixed levels in order to determine other scenarios.

Phreatic levels are measured and stability analyses conducted every two years, which in association with the water balance gives recommendations made on freeboard and pool management. The latest report Vaal River and West Wits Operations Tailings Storage Facility Freeboard Assessments Report No. 01, SLR, February 2013 was observed.

No major events of snow and ice that will influence water balance in the West Wits area.

Savuka Gold Plant
Name of Facility

Signature of Lead Auditor

6 June 2014
Date

ICMI CYANIDE RE-CERTIFICATION AUDIT - SUMMARY REPORT

June 2014
Report No. 12614591

13
ICMI CYANIDE RE-CERTIFICATION AUDIT - SUMMARY REPORT

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

☐ in substantial compliance with

☐ not in compliance with

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 following procedures were observed: "Procedure to be followed when elevated WAD Cyanide is Reported by the Gold Plants" WWTM-CN06 Rev 06 May 2013. This details the actions to be taken when the TSF is notified of WAD exceeding 50 ppm e.g. HCN monitoring to be undertaken, and animals and birds to be scared away from the TSF.

Observed on ROC that the upper control limit of the WAD is set at 50 ppm. Observed: "High WAD Cyanide Levels are measured in the residue slime" WW/CN/Emer 5.8 Rev 08 May 2013 states that if WAD above 45 ppm the dilution water will automatically open and dilute the WAD. The shift foremen are to monitor the situation and notify the TSF Management if the concentration in the residue leaving the Plant goes above 50 ppm. The degradation of cyanide in the pipeline between the plant and TSF has been measured at not less than 11%.

Daily TSF Inspection Checklist has specific space for recording wildlife injuries and deaths. No wildlife mortalities have been observed in the last three years.

The pollution control dam on the plant is the only open water at the Gold Plant. Monitoring was observed for September 2013 (samples are taken twice a week) showing that WAD cyanide concentration did not exceed 0.12 mg/l.

The following procedures for the Gold Plant were also observed: "Monitor Wild Life Deaths" WW/CN/SHE 5.9 Rev 08 May 2013 - actions to be taken in the event of wildlife death; and "Shiftly Cyanide Facilities Inspection" WW/CN/Inspect 5.5 Rev 08 May 2013 – which includes recording wildlife deaths.

Entire 2011, 2012, 2013 Shiftly checklists were observed. Records if any wildlife deaths observed. There have been no wildlife deaths in the last three years.

The monthly speciation samples for Mponeng TSF and Savuka TSF were observed. Samples are taken at the tip point, decant point and North Boundary Dam, Aquatic Dam and Spring Dam. No concentrations in the results observed exceeded 50 ppm. There have been no wildlife deaths on the Savuka TSF in the last three years.

There are no leach heap operations.

Savuka Gold Plant
Name of Facility

Signature of Lead Auditor

6 June 2014
Date

June 2014
Report No. 12614591
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
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 4.5

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 is no direct discharge from the Gold Plant to surface water.

The West Wits tailings facilities have 4 legal discharge points to surface water:

- Discharge of the sewage treatment works to the north of the site - highest reading 0.02 ppm WAD cyanide in the last three years;
- Discharge of sewage treatment works to the south of the site - highest reading 0.02 ppm WAD cyanide in the last three years;
- Discharge towards the Blyvoor Canal - 0.03 ppm (07 June 2012,) WAD cyanide in the last three years; and,
- Discharge at the Gooseneck from the Aquatic Dam towards the Elandsfonteinspruit (river) - 0.02 ppm WAD cyanide in the last three years.

There are no established mixing zones.

Groundwater results observed from 2011 to 2013 are not elevated. The highest level observed was 0.04 ppm free cyanide on 18 April 2013. This was an isolated event with the other readings being 0.02 ppm or less.

There is a possibility of seepage from the TSFs indirectly impacting surface waters, however no surface water sampling results or ground water monitoring results show elevated cyanide levels above 0.02 ppm except for the isolated events detailed above.

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
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 4.6

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.
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. There are also no identified beneficial uses of groundwater down-gradient of the TSFs. 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. Down-gradient monitoring records were observed: the highest level observed was 0.04 ppm free cyanide on 18 April 2013. The seepage from the TSFs has therefore not caused the cyanide concentration of the ground water to exceed the levels to protect its beneficial use. Therefore no remedial action has been required.

There is seepage occurring below the Savuka Dormant compartment. The following mitigation measures have been implemented: Installed 2 seepage pumps to pump any seepage collected back to the Savuka TSF solution trench from where the water flows to the return water dam; implemented phyto-remediation (Woodlands Project) around the TSFs; and constructed 15 evaporation paddocks in the wetland areas.

Chapter 31 - Backfill Product Management of the AGA Cyanide Code states the levels of cyanide permissible in the Backfill; Free Cyanide 26.5 ppm, Sodium Cyanide (total) 50 ppm, WAD Cyanide <50ppm. This is as per MINTEK Technical Info: PWL AGA BF 100112 dated 12 January 2010 (MINTEK is South Africa’s national mineral research organisation specialising in mineral processing, extractive metallurgy and related areas).

"Backfill Cyanide Control" WW/CN/OPS 5.11 Rev 08 May 2013 procedure states that the allowable free cyanide in backfill to the shaft is 26.5 ppm and total cyanide is 50 ppm. No exceedences of these levels were observed.

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

- ☒ in full compliance with
- ☐ in substantial compliance with
- ☐ 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 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 the pump sump and then to the Leach Section. 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. The cyanide storage tanks are located within a bund total volume 135m³ (113%).

The carbon in leach tanks are located within separate concrete bunded areas, which act as secondary containment. A spillage pump is located within the bunded area.

CIP tank capacity is 110 m³ the same as the bund volume however, the Production Engineer stated that it is only filled to the 60% level. The available capacity of the CIP bundwall is 110.63 m³ which is 168% at this
level. If the bund were to overfill any overflow would go to the pollution control dam (1736.4 m\(^3\) available capacity when operated at less than 30% full) via concrete surfaces and lined trenches.

The leach tanks (1,300 m\(^3\)) are located above a concrete area that drains to an HDPE lined pollution control dam (1736.4 m\(^3\) available capacity when operated at less than 30% full). Any spillages are contained within the concrete area. Any failure of a tank will be contained by the pollution control dam prior to being pumped back into the process.

There are no cyanide process tanks without secondary containment.

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

The following procedures prevent the discharge of any cyanide solution or cyanide-contaminated water that is collected in the secondary containment area to the environment: "Emptying of Cyanide Spillage Bund Areas" WW/CN/OPS 5.3 Rev 08 May 2013; and "Anti-pollution Dam Operating (Water)" WW/CN/OPS 5.12 Rev 08 May 2013.

Other relevant procedures include "Cyanide Delivery Line Leak" WW/CN/Emer 5.11 Rev 08 May 2013 actions to take in the event of spillage from delivery line at the Plant; "Procedure to follow before pipeline maintenance" WWTM-CN010 Rev 06 May 2013 (TSF procedure); and "Handling and Detoxification of Hazardous Chemical Spillage" WWTM-CN017 Rev 06 May 2013 (TSF procedure).

The last incident of pipeline failure (and the only incident within the last three years) that occurred at West Wits tailings facilities was on 28 August 2011. A significant quantity of tailings was spilled into a nearby containment facility as well as into the veldt and the Aquatic dam. The incident did not give rise to any wildlife or human casualties or fatalities and therefore is not classed as significant.

All of the recommendations from the investigation have been implemented these include; pipeline patrols being put in place and the replacement of unlined pipes for the movement of slurry with popes that are lined with HDPE.

All pipelines from the Gold Plant to the TSF are on SAP and are either inspected annually for unlined pipes of every two years if lined with HDPE. All residue pipelines are being replaced so that they are all HDPE lined. Unlined steel pipes and HDPE lined pipes are compatible with cyanide and high pH conditions. All tanks are constructed of mild steel, which is 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
- ☐ in substantial compliance with
- ☐ 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.
ICMI CYANIDE RE-CERTIFICATION AUDIT - SUMMARY REPORT

Original drawings and the quality assurance process for these designs were verified during the 2007 Certification Audit.

The following was observed during the certification audit P&ID 0602013-WW-03G-31-F002.1 rev 925/8/04 signed by Plant Engineer, sighted design drawing WWO/03G/31/NWO3 - Feb 2004.

The only change to the Gold Plant in the last three years was when a change was made to the Cyanide Spillage Delivery Line to the pump sump. The line was moved to tie directly into another delivery line. This makes pumping spillage away more easily and needs less pumps (1 instead of 3). Drawing number 06022013-WW-03G-31-F0021 dated 07 October 2010 was signed off by the Production Engineer and Senior SHE Officer.

An appropriately qualified person has inspected those elements of the facility involving cyanide and issued a report concluding that its continued operation are within established parameters which will protect against cyanide exposures and releases. These reports include the following:

- “The Structural Investigation and Maintenance Management Report for Savuka Gold Plant” dated September 2013 conducted by Werner Reyneke (Pr. Eng. No. 20020226) from Tenova Bateman;
- “Sasol Bulk Storage Facility Technical Inspection Report” dated 12 October 2011 conducted by Philip Viviers; and,

Stability analyses of the TSFs are conducted by SLR Global Environmental Solutions every 2 years. The reports include the following: “Mponeng and Savuka Tailings Storage Facilities - Stability Review- Initial Site Inspection and Gap Analysis - SLR Ref No. 710.01003.00002 Report No. 02 - Final March 2012; and Mponeng and Savuka Tailings Storage Facilities - Field Investigations and Side Slope Stability Assessments - SLR Project No: 710.01003.00006 Report No. 1 Final October 2013.

In addition there is an annual TSF inspection by the AGA Corporate Geotechnical Engineer producing the following reports; "West Wits Operations Tailings Facilities Audit Report" dated; August 2013, September 2012, and October 2011.

**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
- ☐ in substantial compliance with
- ☐ 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 for monitoring include the following: "Sampling procedure for specialised speciation and environmental samples" WW/GNOPS 5.8 Rev 08 May 2013 (Plant procedure); "Sampling procedure for
Specialised Speciation - and Environmental Samples" WWTM-CN08 Rev 06 May 2013 (TSF Procedure); and, "Sampling of any Water Dam Overflow" WWTM-CN018 Rev 06 May 2013 (TSF Procedure).

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.

This has subsequently been reviewed by the West Wits TSF Production Metallurgist, Production Engineer and Full time Safety Representative and has been used as the basis for the Plant’s and TSF’s sampling procedures, which include the following: “Sampling procedure for specialised speciation and environmental samples” WW/CNOPS 5.8 Rev 08 May 2013; “Water Management Procedure 2 - Groundwater Sampling” (SAR/EM/W/002) dated 28 January 2011; and “Water Incident Sampling Procedure” (SAR/EM/W/005) dated 25 May 2011.

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

Log sheets for the Plant and TSF were observed showing that sampling conditions were noted.

The operation monitors for cyanide in discharges to surface water and in groundwater up gradient and down gradient of the TSFs and Plants.

The pollution control dam on the Plant is the only open water from which samples are taken twice a week. Groundwater monitoring is undertaken twice a year. In the professional judgement of the auditors the frequency with which the surface water and groundwater monitoring is conducted is adequate to characterise the medium being monitored and identify any changes in a timely manner.

No evidence of surface water or groundwater being affected by the Plant or TSF was observed. There are no discharges of process water to surface water.

The Plant monitors each batch of backfill sent to the shaft for total cyanide and free cyanide together with monthly speciation samples analysed by Mintek. The pollution control dam at the Plant is monitored twice a week. In addition the Plant has Shiftly inspections, daily inspections, weekly inspections of various equipment e.g. safety showers and monthly maintenance inspections.

A Stability review of the TSFs is undertaken every two years. Savuka TSF monthly logbooks detail the daily inspections of the TSF.

There are also the following inspections: monthly surveillance meetings / inspections done for both Savuka and Mponeng TSF; quarterly TSF inspections; and annual TSF inspection by Corporate Geotechnical Engineer.
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 ☐ not in compliance with

Emergency Response Practice 5.1

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 following procedures have been developed for the decommissioning of the facility:

- "Cyanide Plant Decommissioning" WW/CN/OPS 5.14 Rev 08 May 2013. Stipulates the actions to be undertaken 12, 6 and 3 months prior to decommissioning of cyanide related infrastructure and equipment; and,

- "Cyanide Equipment Detoxification / Decontamination" WW/CN/SHE/ 5.5 Rev08 May 2013. Obsolete and redundant Engineering equipment to be decontaminated and detoxified.

Decommissioning procedures are reviewed every 3 years and revised as necessary.

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 ☐ not in compliance with

Standard of Practice 5.2

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 Savuka Gold Plant for 2012 have been calculated including using contractor costs. 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. These costs are updated annually.
AGA has established a Trust Fund and Bank guarantees to provide for the closure liability costs. Ernst and Young Accountants audit’s 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 December 2012 and in accordance with International Financial Reporting Standards.
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
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 6.1

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 following procedures have been developed describing how cyanide related tasks at the TSF should be conducted: “Safe working practices related to Cyanide” WW/WTM-CN01 Rev 06 May 2013; “Procedure to follow before pipeline maintenance” WW/WTM-CN010 Rev 06 May 2013; “Ventilation of Confined Spaces” WW/WTM-CN020 Rev 06 May.

All procedures define the PPE level required (level 1, 2 or 3) and pre-work inspections to be conducted (where applicable). The following were specifically observed to include this: “Cyanide PPE Requirements” WW/CN/SHE 5.1 Rev 08 May 2013; and “PPE Examination” WW/CN/INSPECT 5.1 Rev 08 May 2013. Individual procedures list the PPE requirements.

In addition to the procedures clearance certificates specifically detail the pre-work instructions.


The following procedures are used by the Plant to review proposed changes for their impact on worker health and safety “Change Management” WW/CN/Admin 6.1 Rev 08 May 2013. The following Change Management Documentation was observed: “Lowering of pH to 10.2” conducted 20/08/2013 (project still in progress); and “Change Cyanide offloading pipeline and secondary containment on delivery line” conducted 21/08/2013.

All change management forms contain an assessment of the change, Action Checklist and approval / rejection signature page for plant management and Senior SHE Environmental Officer.
The following procedure is used by the TSF to review proposed changes for their impact on worker health and safety "Change Management" WWTM-CN 11 Rev 06 May 2013. The following Change Management was observed: Step-in at the Savuka 5a TSF conducted on 21 September 2011; and Transport and Install 300 pipe at Mponeng water line, conducted on 15 August 2012.

Plant SHE Meeting Minutes show that New/ Revised Procedures / Registers are discussed and the instruction is given that the procedure should be further discussed in the Green Area Meetings \ One Meetings (shift H&S meetings). Monthly West Wits Tailings SHE meetings are undertaken and the discussion of procedures is also included in these meetings.

**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
- [ ] in substantial compliance with
- [ ] 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 optimal pH for the operation of the Savuka Gold Plant is currently defined as 10.5. Chapter 24 Use of Cyanide of AGA Cyanide Code states that the pH of slurry in the two leach tanks immediately downstream of the point of addition must be maintained above 10.5 or at a pH as determined by a risk assessment.

The Plant is currently undertaking the change management procedure to reduce the pH to 10.2.

Each plant uses the following monitoring equipment: Polytron (fixed) to measure HCN at the dosing point; XAM 500 - personal monitoring - 4 multigas including HCN; XAM7000 - personal monitoring - 5 multigases including HCN; PAC7000 - personal monitoring – HCN, all limits set to first alarm 7.5 ppm and second alarm to 10 ppm.

Quarterly surveys are conducted by Occupational Hygienist at the Gold Plants to determine areas of potential cyanide exposure. 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.

All readings were 0.0 for the survey results that were observed by the auditors. When entering a confined space that has been determined to be a hot spot workers are required to carry a PAC 7000 when entering a Hot Spot area and for a survey to be undertaken by the Occupational Hygienist prior to this to ensure it is safe to enter.

"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.

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. If an instrument is not calibrated when technician is on
plant it is flagged. Before the Drager technician leaves the mine after the week of calibration they are collected and calibrated or withdrawn until calibrated. Calibration certificates were sampled during the last three years.

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. They also instruct on what PPE must be worn.

Observed during the site investigation that showers (with eye wash), dry powder fire extinguishers are located at strategic locations throughout the plant where cyanide is used. The safety showers are inspected daily and fire extinguisher are checked monthly and services annually.

Pipes are identified including flow direction at the Gold Plant during site visit. All reagent strength cyanide pipes are colour coded purple and indicates that it contains cyanide as well as flow direction.

Cyanide storage tanks are colour coded purple with red band as per colour coding index. Pipes carrying tailings are labelled as toxic /poisonous water with a skull and cross bones and not potable water pictogram at culverted areas.

The official language of AngloGold Ashanti is English with all documentation being in English including the induction, which has to be passed before they are allowed to work.

All procedures are in English and training on procedures as well as task assessments are undertaken in English. The MSDS for Cyanide and Ferrous Sulphate is displayed at the storage areas. Cyanide MSDS is displayed in the First Aid room and on gate of Cyanide storage area.

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. Access the cause of the accident and then compile remedial actions. Actions are loaded into an Action Manager (RMS). No cyanide exposure incidents have been recorded in the last 3 years.

**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
- [ ] in substantial compliance with
- [ ] 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.

Savuka Gold Plant has two first aid rooms with one being close to the liquid cyanide offloading area. These rooms contain water, oxygen, antidote kits, telephones and alarm systems. A fully equipped (except for the antidote) emergency trailer is parked at the Cyanide Emergency Room. No cyanide emergency equipment exists on the tailings facilities. The staff uses radios and cell phones to communicate and to receive evacuation instructions from the Plant. ER24 (paramedic and ambulance service provider) provides a 24 hour paramedic and ambulance service under contract to AGA, who is called when there is an incident at the Plant or TSF to provide paramedic response and transportation to West Wits AGA Hospital. ER24 have
oxygen, resuscitator and qualified personnel available to assist with a cyanide exposure incident. Each operational ambulance and the response vehicle have a Cyanide First Aid Kit. West Wits Hospital has oxygen, antidote kits, resuscitator available to except patient exposed to cyanide.

The Plant has the following procedures regarding the inspection of first aid equipment: "Daily Cyanide Facilities and emergency equipment inspection" WW/CN/INSPECT 5.3 Rev 08 May 2013; "Shiftly Cyanide Facilities Inspection" WW/CN/Inspect 5.5 Rev 08 May 2013; "PPE Examination" WW/CN/INSPECT 5.1 Rev 08 May 2013; "Checking Safety Showers and Eye Wash Basin" WW/CN/INSPECT 5.2 Rev 08 May 2013; and "Testing of Mandown alarm" WW/CN/INSPECT 5.4 Rev 08 May 2013.

ER 24 inspects and ensures all equipment in Cyanide First Aid Kits is correct and then uses a cable tie to close it to prevent any tampering. Once used it will be replaced and checked by Savuka Gold Plant Cyanide Champion and resealed. The Tripac-Cyano and Dicobalt Cyanide Antidotes at West Wits Hospital are kept in the fridge and are within expiry date. AGA Metallurgy keep a Tripac-Cyano and Hypo Solution Expiry List dated September 2013 for all of the Gold Plants and Hospitals.

Savuka Gold Plant has 17 Emergency Procedures including “Cyanide First Aid Procedure” WW/CN/Emer 5.1, Rev 04 September 2013, and “Response to Abnormal and Emergency Conditions Procedure” SAV/EPP Rev 04 September 2013.

The Emergency Preparedness and Response Plan (EPP) MS SHE OP 151 for the Plant contains the following: Statement of Strategic Intent; Management Roles and Responsibilities; Plan Maintenance and Change Management; Escalation Points and Incident Levels; Plant Training and Testing; Schedule for Full Hospital Response Chain (cyanide emergency drill schedule for Vaal River Operations); Emergency Scenario Response Plan; Plant Process Description; Crisis Management Plan; Command Centres.

Additional procedures include “Notification of Cyanide Exposures to Tailings Employees” WWTM-CN02 Rev 06, Dated May 2013 TSF procedure), “Emergency Procedure for Cyanide First Aid Treatment” WWTM-CN05, Rev 06, May 2013, and “Procedure to Follow when Cyanide is Detected by Occupational Hygienist during Routine Sampling or Surveys” WWTM-CN04, Rev06 dated May 2013.

Both ER24 and West Wits Hospital use Chapter 42 – First Aid and Medical Treatment for Cyanide Exposures -of the South Africa Region Metallurgy (SARM) Cyanide Code Implementation Guidelines, July 2013, Rev 06.

There are two procedures for dealing with the transportation of patient to hospital “Emergency Ambulance Notification and Access” WW/CN/Emer 5.9 Rev08 May 2013 and “Procedure for notification of Cyanide Exposures to Tailings Employees”, WWTM-CN02, Rev 06, dated May 2013 for the Plant and TSF respectively.

ER24 and West Wits Hospital take part in cyanide exposure drills.

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 West Wits Area (Savuka Gold Plant and Mponeng Gold Plant).
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

☐ in substantial compliance with

☐ not in compliance with

Standard of Practice 7.1

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.

The operation has developed an Emergency Preparedness and Response Plan (EPP) MS SHE OP 151, Rev 06, dated 2013, including "Issue Based Risk Assessment - Procedural Hazop - Emergency Scenarios for Savuka Gold Plant".

Savuka Gold Plant has 17 Cyanide Emergency Procedures in addition to the Hazop and other procedures.

The EPP and procedures 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 detail 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. In addition the following risk assessment has been undertaken for the transportation of liquid cyanide from Sasol to the Gold Plant; Sasol Transport Route Risk Assessment (Road) Assessment Number SA 0036 - Sasol Polymers Sasolburg to AngloGold West Wits Savuka Gold Plant at Fochville.

"Mandatory Code of Practice Mine Residue Deposits West Wits Tailings" COP/SHE/t/003 Rev 5 May 2013 - Section 5.9.1 lists actions to be taken in emergency situations and people responsible for those actions and the "Pipeline Failure Procedure" P/SHE/e/015 Rev 0 November 2012 controls the actions to be undertaken in the event of a release of residue.

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
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 7.2

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.

The operation involves its workforce in risk assessments. In addition the Plant conducts Monthly Health and Safety Meetings, which are attended by the Plant Management, Section Safety Stewards and Full Time Safety Stewards, who represent the workers. These meetings include discussions on any changes to cyanide emergency response planning. "Review of Emergency Procedures" states that employees shall be briefed on revised procedures during One Team Meetings (H&S meetings held prior to shift) or through established forums such as the plant health and safety meetings.

The Fire Captain liaises with Municipal Fire Department on a regular basis e.g. Annual General Meeting 24 April 2013 where issues regarding the emergency response planning can be brought up. The West Wits Fire Department is also a member of the Fire Protection Association where relevant topics are discussed. Letters were observed expressing appreciation of the work the Fire Team undertake in support of the local community fire services e.g. letter dated 31 July 2012 from Regional Commander West Rand Municipality. The Fire Captain also discusses emergency planning with neighbouring land owners to ensure there is a co-ordinated response. Fire teams are not trained to handle cyanide, which will be dealt with by Cyanide Appointees if on the Plant or the team from Sasol if the emergency involves a tanker in transit. The Fire Teams will assist in the coordination of actions and prevent access to any emergency area.

A presentation was given to stakeholders in the area around the plant on 27 March 2013 giving a background of the potential hazards as well as the emergency preparedness ability of AGA.

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

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

☒ in full compliance with
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 7.3

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.

The “Emergency Preparedness and Response Plan” (EPP) contains the following: Emergency Response and Control Chart outlining the incident command and control arrangements; Section 7 Management Roles and Responsibilities; the Levels of Emergency (1-3) and who the responsible persons are to take charge of
that specific level of emergency; the list of Cyanide Appointees which make up the Emergency Response Team.

24 hour emergency telephone numbers are placed at every external telephone on the plant.

Each procedure stipulates the PPE Requirements for dealing with the specific issue. In addition the emergency response equipment available at the plant is listed in the relevant procedures e.g. "Daily Cyanide Facilities and emergency equipment inspection". There is no emergency equipment on the TSFs. In the event of an emergency ER24 will be called in addition to the emergency team from the closest Plant.

Observed Emergency telephone numbers placed at Telkom phones and at the entrances to the TSFs. Team leader of operator on dams have cell phones to notify management of any emergencies. Pipe patrol also equipped with cell phones.

ER24 (contracted by AGA) and West Wits Hospital (owned and operated by AGA) are involved in the emergency planning process and with the emergency drills as confirmed through interviews with ER24 and hospital staff. 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.

The Reagent and Risk Manager has regular discussion with Chief Fire Officer, Business Services, as confirmed through interview. The Fire Captain liaises with Municipal Fire Department on a regular basis e.g. Annual General Meeting 24 April 2013 where issues regarding the emergency response planning can be brought up. Fire teams are not trained to handle cyanide, which will be dealt with by Cyanide Appointees if on the Plant or the team from Sasol if the emergency involves a tanker in transit. The Fire Teams will assist in the coordination of actions and prevent access to any emergency area.

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

☑ in full compliance with

☐ in substantial compliance with  

☐ not in compliance with

**Standard of Practice 7.4**

**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 Savuka EPP Section 17 states the Emergency Response Levels (1 - 3) as well as the Emergency Response and Control Chart for each level of emergency. Each diagram indicates the responsibility of the communication to outside stakeholders such as outside responders and medical facilities. The "Emergency Preparedness and Response Plan" WWTM-EPP Rev 06 May 2013 for the tailings facilities includes escalation points and incident levels as depicted in Figure 1 - General Emergency Escalation Points determination and Figure 6 Emergency Communication Structure.

The "Public Consultation and Disclosure" WW/CN/Admin 6.9 Rev 08 May 2013 procedure states that no employee is allowed to communicate directly with the press or general public. Established communication channels must be used.

---

**Savuka Gold Plant**  
Name of Facility  

---

**Signature of Lead Auditor**  

---

**June 2014**  
Report No. 12614591  

---

© Golder Associates  
6 June 2014 Date
"Mass Evacuation Procedure" SAV/EP 12A Rev 04 May 2013 details the process to follow during evacuation of residences, villages and high density residences.

“Public Consultation and Disclosure / Emergency Communications” WWTM-CN07 Rev 06 May 2013 (TSF Procedure) states the Tailings Process Manager is to follow established communication structure as per 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

☐ 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.

The Plant and TSF have specific procedures for the recovery or neutralisation of solutions or solids, the decontamination of soils or other contaminated media, and the management and/or disposal of spill clean-up debris. This includes; “Handling of Cyanide Spillage”, “Using Ferrous Sulphate”, “Cyanide Decontaminated Equipment to the Mills”, and “Handling and Detoxification of Hazardous Chemical Spillage”.

The following procedures “Using Ferrous Sulphate” and “Handling and Detoxification of Hazardous Chemical Spillage” prohibit the use of ferrous sulphate, sodium hypochlorite and hydrogen peroxide to neutralise cyanide spillage into clean water rivers and dams.

The Plant and TSF have specific procedures that include the requirement for environmental monitoring to identify the extent and effects of any cyanide release and include the sampling methodology. These include: “Sampling procedure for specialised speciation and environmental samples”, “Sampling of anti-pollution dam overflows”, and “Handling and Detoxification of Hazardous Chemical Spillage”.

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

☒ in full compliance with

☐ 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.
"Review of Emergency Procedures" (one procedure for the Plant and one for TSF of same name) states that plant and TSF emergency and cyanide procedures shall be reviewed every three years or when short comings are highlighted during man down drill conducted.

The Plant EPP is updated at least every 3 years or whenever there is a major change to the document. Changes to the document will be made when the following changes occur: regulatory changes, new risks identified, resources or organizational structure change, after drills / exercises, after the EPP is used for an actual event, technology changes, and major changes.

The Tailings EPP is revised every 3 years or when a major change occurs or when regulatory changes occur, new risks are identified, resources or organizational structures change, after drills if required, when the EPP is used for an actual event, and technology changes.

Full chain drills (i.e. from man down all the way through to treatment at the hospital) are conducted every six months rotated between the Savuka and Mponeng Plants that make us the West Wits area. Savuka Gold Plant conducted one in October 2013 and is scheduled again in October 2015. The Cyanide Drill Schedule for 2013 was observed. The drills are conducted monthly and scenarios vary every month (cyanide splash, cyanide gas inhalation, cyanide ingestion, cyanide environmental spill).

Cyanide Mock Drills on the TSF are undertaken monthly. It has been determined that exposure to cyanide will not occur on the TSF due to the Plant altering the TSF when there is high WAD CN in the Tailings.

There have been no cyanide exposures in the last 3 years.
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

☐ 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; 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.

June 2014
Report No. 12614591
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
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 8.2

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with 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.

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 is receiving 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 for 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 are detailed in the training matrix include PTO.

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.

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; Savuka Gold Plant trainer - Mr W Diniso - Workplace Assessor - (ETDP SETA Accredited Service Provider, ). Completed "Facilitation for Trainers" Course.
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
- ☐ in substantial compliance with
- ☐ 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, Casually Department Nurses) receive Intermediate Cyanide First Aid training. Casually 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.

Full Chain Drill Assessment Document – 13 November 2013 - Cyanide Gas Inhalation - observed positive and negative remarks as well as recommendations. Negative remark - security closed the gate after the first ambulance and did not have someone to accompany the second ambulance. Corrective action is being implemented to amend the security access procedure (Vehicle Access Control High Risk Areas Procedure Ref No. SEC-AC-01 Rev01 May 2010) to allow multiple ambulances into the air lock and the plant access procedure (Emergency Ambulance Notification and Access WW/CN/Emer 5.9 Rev 08 May 2013).

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.
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 ☐ not in compliance with Standard of Practice 9.1

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 Savuka Gold Plant can come to the Plant security at the Plant entrance. Security will escalate the complaint to Plant Management. If complaint is made to Security then they will call Plant Management. Security will record complaint in OB book (Occurrence Book) with all details of complainant and complaint. Production Metallurgist will action the complaint and give feedback to complainant depending on the severity of the complaint.

A school awareness campaign was run in November 2011 regarding the TSF facilities and the dangers they pose. The following schools were visited on 10 November 2011. Wedela Technical High School (flyer and presentation by TSF personnel), Xhobani Primary School, Wedela Primary School. Flyers were distributed during October 2013 by TSF personnel and contractors in the Wedela community highlighting the dangers of the TSFs. This included a telephone number to obtain additional information.

Observed attendance register and presentation given to stakeholders in the area around the plant on 27 March 2013 giving a background of the potential hazards as well as the emergency preparedness ability of AGA.

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 ☐ not in compliance with Standard of Practice 9.2

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.

Information has been provided to stakeholders describing cyanide management procedures and providing stakeholders to express concerns include the following:

AGA Sustainability Report for 2010 (published March 2011) informs stakeholders that AGA is a signatory to the ICMI. AGA Sustainability Report for 2011 (published in 2012) includes a graph indicating the number of sites with full compliance in terms of ICMI certification. AGA Sustainability Report for 2012 (published in 2013) states AGA is a signatory to the ICMI and indicates the amount of cyanide used.
AuRa Newsletter - May 2012 explains the International Cyanide Code and that AGA is a signatory to the Code across its operations. The newsletter is distributed companywide electronically and is available to stakeholders who request it. AGA Result for the first quarter ending 31 March 2012 presentation to host communities in Matlosana and Merafong by Executive Vice President - SA Region 25 May 2012. Stated in presentation that ICMI Certification retained.

Observed presentation given as part of an awareness campaign at schools in the West Wits area in November 2011 - Primary and secondary schools in the area. Presentation on tailings: safety aspects such as drowning, dust and dust suppression, waste rock dumps, lighting, pipe failures and what to do, high pressure pumping, sinkholes, electricity, safety signs (no entry at TSFs, no drinking of water).

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

Observed brochure / poster placed by TSF personnel at the entrance to the TSF offices. Brochure stipulates the process and where cyanide is used, how communities can be exposed, as well as emergency telephone numbers. A similar brochure/poster regarding the operation of the Plant is posted inside the plant at the entrance, in the control room and at the Cyanide Emergency First Aid Station. Contents of the brochure were discussed with the plant employees by the Training Officer.

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

☒ in full compliance with
☐ in substantial compliance with
☐ 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 posted inside the plant at the entrance, in the control room and at the Cyanide Emergency First Aid Station. The content of the brochure was discussed with the plant employees by the Training Officer.

A similar brochure / poster regarding the operations of the TSF is placed by TSF personnel at the entrance to the TSF offices. The brochure stipulates the process and where cyanide is used, how communities can be exposed, as well as emergency telephone numbers.

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 West Wits Region are literate and therefore it is not necessary to disseminate information in a verbal form.

A presentation was given to stakeholders in the area around the Plant on 27 March 2013 giving a background of the potential hazards as well as the emergency preparedness ability of AGA.
There have been no cyanide exposure, hospitalisation or fatalities occurred or were reported in the last three years at either the TSFs or the Gold Plant; no cyanide release of water or slurry containing cyanide was released from the Gold Plant in the last 3 years; and no cyanide releases on or off the mine site resulting in significant adverse effects to health or the environment.

Information regarding environmental incidents if there had been any would be in the public domain and can be obtained from the regulator. In addition 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.
GOLDER ASSOCIATES AFRICA (PTY) LTD.

Ed Perry  
Lead Auditor

Marie Schlechter  
Reviewer

Date: 6 June 2014

MS/EP/ag

Reg. No. 2002/007104/07
Directors: SAP Brown, L Greyling, RGM Heath

Golder, Golder Associates and the GA globe design are trademarks of Golder Associates Corporation.
At Golder Associates we strive to be the most respected global group of companies specialising in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organisational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.