SUSTAINABILITY
FUTURE GROWTH

INTERNATIONAL CYANIDE MANAGEMENT CODE
GOLD MINING OPERATIONS

AngloGold Ashanti Ltd – Tropicana Gold Mine

Tropicana Gold Mine ICMI Audit
Summary Audit Report

August 2017

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SUMMARY AUDIT REPORT

Name of Mine

Tropicana Gold Mine

Name of Mine Owner

Tropicana Joint Venture - AngloGold Ashanti Australia Ltd (70%) Independence Group NL (30%)

Name of Mine Operator

AngloGold Ashanti Australia Ltd

Name of Responsible Manager

Richard McLeod, General Manager

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LOCATION DETAIL AND DESCRIPTION OF OPERATION

Tropicana Gold Mine (Tropicana or TGM) is a conventional drill and blast open pit gold mine operated by AngloGold Ashanti Australia Limited (AGAA) on behalf of the Tropicana Joint Venture between AGAA and the Independence Group. Tropicana is located approximately 330 kilometres (km) east-north-east of Kalgoorlie, Western Australia. Tropicana is remotely located. The nearest community centres of Laverton and Cosmo Newberry are 220km northwest of the site. The process plant commissioning phase began in September 2013, with full operation beginning in December 2013.

Since commissioning the mine has produced over 1.4 million ounces of gold. Initial mine life of Tropicana was forecast to be 10 years. This has subsequently been extended through additional exploration.

The mine is supported by a 7,400,000 tonne per annum processing plant and secondary infrastructure, including a gas fired and diesel fired power stations. The operation is licensed by the WA Department of Environmental Regulation as prescribed premises with a production capacity of 8,000,000 tonne per annum. Ore from the open pits is processed through a series of crushers and ball mills prior to entering a carbon in leach circuit. Gold particles leached from the ore are adsorbed onto grains of activated carbon. The carbon is stripped of the gold particles through an elution process before electrowinning and smelting into gold dore`. The treated ore waste (tailings) is thickened before being discharged to a paddock style tailings storage facility (TSF).

AUDITOR'S FINDING

This operation is:

☑ in full compliance

☐ in substantial compliance

☐ not in compliance

with the International Cyanide Management Code.

This operation has achieved full compliance with the International Cyanide Management Code.

Audit Company

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Date(s) of Audit

Inclusive of the period from 23th – 27th March 2017.

Audit Team Leader and Technical Specialist

John Miragliotta (john.miragliotta@sustainability.net.au)

19 June 2017

Names and Signatures of Other Auditors

Marc Barendrecht

19 June 2017

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

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

PRINCIPLE 1 – PRODUCTION

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

Standard of Practice 1.1

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 1.1
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 1.1.

TGM has a purchasing contract in place with Australian Gold Reagents (AGR) for the supply of sodium cyanide. Section 36 of the contract document states that at all times AGR must fully comply with the current International Cyanide Management Code.

The commencement date of the contract is the 1st January 2017 and the contract is valid for 5 years.

AGR was most recently certified on the 13th March 2014 as fully compliant, upon successful completion of a Corrective Action Plan. As such AGR's recertification audit was required to be conducted prior to the 13th March 2017. TGM contacted AGR to confirm that the recertification audit had been conducted in the required timeframe. AGR responded that the site audit had been undertaken as required and audit findings are being developed. TGM will continue to monitor the outcomes of the AGR recertification audit.

As such TGM is found to be in full compliance with this Standard of Practice.

PRINCIPLE 2 – TRANSPORTATION

Protect communities and the environment during cyanide transport.

Standard of Practice 2.1

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 2.1
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 2.1.

TGM has a purchasing contract in place with Australian Gold Reagents (AGR) for the supply and transport of sodium cyanide. Section 36 of the contract document states that at all times AGR must fully comply with the current International Cyanide Management Code.

The commencement date of the contract is the 1st January 2017 and the contract is valid for 5 years.

AGR's supply chain was most recently recertified on the 26th September 2016 as fully compliant. AGR also utilise the services of Toll Mining Services for transport of cyanide from Kalgoorlie. Toll are also a certified transport company under the Code, with certification achieved on the 30th September 2014.

Standard of Practice 2.2

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 2.2
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 2.2.

TGM has a purchasing contract in place with Australian Gold Reagents (AGR) for the supply and transport of sodium cyanide. Section 36 of the contract document states that at all times AGR must fully comply with the current International Cyanide Management Code.

The commencement date of the contract is the 1st January 2017 and the contract is valid for 5 years.

AGR's supply chain was most recently recertified on the 26th September 2016 as fully compliant. AGR also utilise the services of Toll Mining Services for transport of cyanide from Kalgoorlie. Toll are also a certified transport company under the Code, with certification achieved on the 30th September 2014.

Chain of Custody records are available on-site verifying the cyanide that was received has originated from AGR's Kwinana production facility.

Records are in the form of Transport Documents from AGR which identify the isotainer number, vehicle registration number, driver's name and signature and volume of cyanide delivered. AGR notify the site that the cyanide has left their facility and a timeframe in which to expect delivery.

PRINCIPLE 3 – HANDLING AND STORAGE

Protect workers and the environment during cyanide handling and storage.

Standard of Practice 3.1

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 3.1
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 3.1.

TGM's cyanide unloading and storage facilities have been designed and constructed according to accepted design standards and Western Australian Dangerous Goods Act and Regulations. In 2013 prior to commencement of operations the cyanide supplier has audited and verified that the facilities were constructed to AS4452:1997 and Western Australian Regulations. Subsequent annual audits by the supplier have continued and no compliance issues have been observed. Independent audits of TGM's Dangerous Goods License have been conducted on two occasions and no compliance issues have been observed.

The facility has been designed to minimise potential impacts to people, surface water and the subsurface. The facility is located inside a locked fenced compound well away from the site offices. There are no surface water features near the facility. The storage and unloading facility area is concreted lined and secondary containment is designed with sufficient capacity to contain 100% of a spill from storage tanks or delivery tankers, plus a 1 in 25 year 24 hour storm event. The concrete lining of the secondary containment is inspected and in good condition.

Two separate automatic overfill protection mechanisms and one manual fill override mechanism prevent the overfilling of cyanide storage tanks. Regular scheduled inspections and maintenance is performed on the facility's spill prevention mechanisms.

There are no acids or other incompatible chemicals stored in the proximity to the cyanide storage.

Standard of Practice 3.2

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 3.2
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 3.2.

Both TGM and the cyanide supplier have procedures in place for the prevention of exposures and releases during liquid sodium cyanide unloading. The procedures ensure that all personnel follow correct operation of valves and couplings and correct use of PPE and safety equipment during unloading.

At all times during unloading of liquid cyanide operators are required to use appropriate PPE and a spotter is on standby with appropriate equipment.

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 utilizing contingency planning and inspection and preventive maintenance procedures.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 4.1
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 4.1.

TGM's Cyanide Management Plan provides an overarching document that identifies the design parameters and assumptions and regulatory requirements and operating parameters relevant to the health, safety and environmental aspects of cyanide management at TGM. In addition, TGM has developed many specific policies and procedures that cover the management, use and handling of cyanide throughout the mine site. At a minimum, all documents are reviewed on a 2-yearly basis. They are available in electronic form online via the site intranet page. The documents are controlled and written in clearly understood language.

All aspects of the facility are audited and/or inspected on a regular basis. TGM has procedures and policies in place that outline the requirements of the audits and inspections including reporting and further actions. Actions from audits and inspections are managed through a database, which provides tracking and verification for close out of corrective and preventative actions. All cyanide facility inspections are classified as safety critical to ensure that maintenance inspections are carried out at sufficient frequency to verify that facilities are operating within design parameters. Evidence from TGM shows that these inspections are being carried out at the prescribed schedules. Past inspections have identified areas of the facility requiring repair and/or improvement and led to investigations when required. Inspections are documented through the electronic maintenance database including raising corrective actions and additional work orders.

TGM maintains a Management of Change (MoC) process in accordance with ISO 14001 requirements as a systematic way to deal with change and ensure that hazard and risk assessments are performed in the event of changes to dangerous goods. The system is triggered by significant changes in equipment, materials, personnel and processes. The Health, safety and environmental aspects of changes are evaluated by a committee consisting of Processing, Maintenance and Safety Representatives.

TGM have policies and procedures in place that describe the required actions during a deviation from standard operating procedure that ensure the facility continues to operate in a safe manner. The procedures cover events such as power failure, storms and upset to site water balance. Backup power is in place through diesel generators that are sufficient to maintain emergency alarms, lighting, and process control equipment systems.

All aspects of closure, including premature closure, are addressed in the TGM Closure Plan. Decommissioning of cyanide facilities, including process plant, water storage facilities and the TSF, is covered in detail.

Standard of Practice 4.2

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 4.2
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 4.2.

TGM has implemented a cyanide management and operating system which is focussed on optimal economic gold recovery with minimum cyanide concentrations in the tailings solution going to the TSF. Initial cyanide application rates were based on metallurgical testwork developed during project feasibility and were further refine with additional testwork in 2016 and 2017.

Cyanide addition is automated through a dosing system. Daily optimisation is performed by applying a review of the past 24 hour process parameters including tailings WAD CN and Au grade.

A range of control strategies have been evaluated at TGM with the aim of maintaining WAD CN concentration < 50 mg/L in the tailings discharge. In early 2017 TGM evaluated the water management strategies in place to improve tailings dilution during periods of low salinity when wildlife risks from cyanide on the TSF and process water pond is increased. Further projects are currently being evaluated.

Standard of Practice 4.3

Implement a comprehensive water management program to protect against unintentional releases.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 4.3
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 4.3.

To protect against unintentional releases TGM have developed and implemented a probabilistic water model that assists with the management of the TSF capacity, decant return system, and the use of process water from the borefield. The model utilises many key inputs and outputs including: meteorological data, borefield inputs, pond and dam volume and capacity, evaporation and seepage. Ponds and dams are inspected regularly to ensure that there is sufficient freeboard to prevent overtopping. At all times, free capacity in secondary containment is monitored and sufficient capacity is maintained as contingency for storm and power outage events. TGM maintain a weather station, including rainfall gauge at the airstrip to verify the design assumptions which were originally based on non-measured data.

Standard of Practice 4.4

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 4.4
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 4.4.

TGM operates a single-cell paddock-type facility (TSF) 291 ha in size and currently permitted to accommodate 8 million tonnes per annum (mtpa) of unconsolidated tailings. The TGM site also manages a process water pond, a water body that is located adjacent to the mill.

The sources feeding both these water bodies at times may contain levels of WAD cyanide above 50 mg/L. Given this, TGM has developed an approved scientific basis for operating at levels greater than 50 mg/L WAD cyanide.

TGM commissioned a scientific study to examine the potential for hyper-salinity of surface water bodies as an alternative wildlife protective measure to meet the objective of Standard of Practice 4.4. The scientific study was endorsed by an ICMI approved peer review panel. The peer reviewed study found that hyper-salinity (greater than 50,000 mg/L Total Dissolved Solids (TDS)) protects wildlife at concentrations above 50 mg/l WAD cyanide concentration. The hypersaline protective mechanism has been implemented through TGM's Cyanide Management Plan. The Plan specifically references the 6 Recommendations of the peer reviewed study report and describes how these recommendations are achieved.

The recommendations include: operating within a specific set of parameters determined by TDS and WAD cyanide concentrations of the TSF (tails slurry and return water) and process water pond; developing a detailed cyanide management plan; continuous risk assessment, monitoring and reporting of water quality and wildlife; maintaining artificial ponds around the perimeter of the TSF; and vegetation suppression and clearance near any cyanide containing water bodies.

In addition to the recommendations, TGM has installed and operated a contingency hydrogen peroxide cyanide detoxification system on the process water pond to allow reduction of WAD CN concentrations below 50 mg/L when TDS falls below 50,000 mg/L.

TGM has demonstrated full compliance with the peer reviewed study recommendations and its operating parameters established within the TGM Cyanide Management Plan.

Water quality monitoring consists of daily cyanide and salinity concentration data at the TSF (tails slurry and return water) and process water pond. TGM also conducts daily morning wildlife inspections and daily afternoon carcass inspections of the TSF and process water pond.

No bird mortalities attributable to cyanide have been recorded at the TSF or process water pond during the three months leading up to the audit.

Personnel conducting observations have received specialist wildlife training and refresher training and records of this training are maintained on the TGM training records database.

Standard of Practice 4.5

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 4.5
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 4.5.

TGM does not have any direct or indirect discharges to surface water. The operation is in a remote area, with the nearest surface water body at Lake Rason, an ephemeral saline water body, which is approximately 50 km away from site operations.

Opportunistic surface water samples are taken from site drainage lines after sufficient rainfall events. Results of this monitoring have not returned any samples containing cyanide. As such, this standard of practice is not applicable to TGM operations.

Standard of Practice 4.6

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 4.6
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 4.6.

TGM is in a remote area of Western Australia. The operations nearest neighbouring entities are more than 250 km away. As such, the only user of groundwater in the area is the operation itself. No beneficial use of groundwater occurs in the area, apart from the operations own use of groundwater from its approved borefields.

TGM has installed a network of recovery bores to manage groundwater levels surrounding the TSF. Results observed during the audit demonstrated the bores were effective in reducing groundwater levels. At the same time, regular water quality analysis of the recovery and monitoring bores is undertaken. WAD cyanide results for monitoring data observed during the audit were generally below the laboratory limit of detection (0.002 mg/L).

The site also has two monitoring bores located in the footprint of the processing plant. The results observed indicate no significant concentrations of cyanide in groundwater at the processing plant.

TGM's regulatory approval conditions do not specify a numerical value for any form of cyanide in groundwater. As such there are no regulatory compliance points that TGM is required to comply with related to cyanide species. There are also no beneficial users of groundwater near the operation.

TGM is an open pit mining operation and does not use mill tailings as underground backfill.

Standard of Practice 4.7

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

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 4.7
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 4.7.

Spill prevention and containment measures are in place at TGM and include high-level alarms and automatic switches to prevent overflows from tanks.

In the event of a spill secondary containment is in place at tanks and pipelines. All secondary containment bunds are designed to contain 100% of the volume of the largest storage tank and pipe drain back, plus the inflows from a 1 in 25 year 24 hour storm event. Secondary containment bunds are inspected monthly and any solution or slurry is removed.

The tailings pipeline is visually inspected for leaks twice daily. Alarms in the mill control room will alert of any sudden loss of flow. The tailings pipeline is also subject to programmed inspections, thickness testing and internal camera inspections.

Cyanide containing tanks and pipelines are constructed of materials compatible with cyanide and high pH conditions. The processing facilities were constructed in accordance with the relevant Australian Standards.

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

The operation is ☐ in substantial compliance with Standard of Practice 4.8

☐ not in compliance with

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 4.8.

During construction of the operation, TGM ensured implementation of rigorous quality assurance / quality control (QA/QC) programs to verify that construction occurred as designed. This audit report is the initial certification audit for TGM and as such all relevant QA/QC programs for cyanide facilities constructed onsite have been reviewed.

The operation has had two major construction campaigns, the original mine site construction (2011-2013) and a subsequent optimisation project (2016). Cyanide facilities included in the optimisation project involved the construction of additional leach tanks and upgrades to the elution circuit and goldroom area.

Documentation is retained on-site in hard and electronic copies of the QA/QC programs implemented during construction. The site utilised EPCM contractors for the construction of the original construction project and for the optimisation project. Design drawings were developed, reviewed, approved and signed-off by both the contractor and AngloGold Ashanti personnel (with appropriate qualifications and experience) for both the original construction and the optimisation project.

All documentation required to demonstrate implementation of the QA/QC program for the construction of cyanide facilities was confirmed as completed and available on-site during the audit.

QA/QC documentation includes materials assurance, compactions tests, liner weld tests, and tank/pipeline integrity tests. HDPE liners have been used in the construction of the TSF, Process Water Pond and Event Pond. HDPE liners have also been installed within the cyanide tank ring beams as the impermeable barrier. QA/QC processes to verify the liner installation and welds were undertaken and reviewed in the audit.

All quality control and assurance documents have been maintained on the central TGM intranet under the various plant components. These have been compiled by the commissioning team for hand-over to the operations team. Hard copies of the documents are also available on-site.

Appropriately qualified personnel reviewed the construction process and have signed off on the practical completion of construction activities. Signatures reviewed included qualified engineers from the EPCM contractors (Lycopodium, Civmec) on as-built drawings and handover acceptance within the AGA and TGM construction teams by qualified engineers.

Standard of Practice 4.9

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

The operation is	☑ in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Standard of Practice 4.9

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 4.9.

A range of written monitoring instructions guides the conduct of monitoring activities conducted at TGM. Suitably qualified site based environmental and processing personnel have developed the site monitoring procedures. The procedures outline the sample location, preservation techniques, chain of custody procedures, shipping instructions and cyanide parameters requiring analysis. This information is primarily located in the TGM Water Monitoring Sample Collection, Storage and Dispatch and noted in the TGM Water Monitoring Field Measurements.

Sampling conditions to be recorded are documented in the TGM Water Monitoring Sample Collection, Storage and Dispatch and noted in the TGM Water Monitoring Field Measurements. Sampling conditions are also recorded in the Tailings Storage Facility Wildlife Monitoring Form, conducted daily. Hard copies of field data records were observed during the audit.

TGM does not discharge process water to surface water bodies. The operation is in a remote area, with the nearest surface water body at Lake Rason, an ephemeral saline water body, which is approximately 50 km away from site operations. Regular (monthly) water quality analysis of the groundwater recovery and monitoring bores is undertaken, which includes WAD cyanide as a monitoring parameter. Opportunistic surface water samples are taken from site drainage lines after sufficient rainfall events. Results of this monitoring have not returned any samples containing cyanide.

TGM conducts daily morning wildlife inspections and daily afternoon carcass inspections of the TSF and process water pond. The observation data is recorded into a daily TSF monitoring form and subsequently entered into a tracking spreadsheet. Completed monitoring records for the 3-month period leading up to the site audit were available. Records dating back to 2013 were available. No bird mortalities attributable to cyanide have been recorded at the TSF during this period.

TGM conducts monitoring at appropriate intervals to adequately characterise the medium being monitored.

PRINCIPLE 5 – DECOMMISSIONING

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

Standard of Practice 5.1

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

The operation is
- ☑ in full compliance with
- ☐ in substantial compliance with Standard of Practice 5.1
- ☐ not in compliance with

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 5.1.

TGM has developed written procedures which outline how cyanide facilities will be decommissioned.

Overall mine closure is documented in the operations full Mine Closure Plan (MCP). Specific tasks related to decommissioning of cyanide facilities are captured in the Cyanide Facilities Decommissioning Plan.

The Cyanide Decommissioning Plan contains an implementation schedule that commences 24 months prior to closure and extends to 24 months post closure. This schedule describes what decommissioning activities should be commenced at what stage.

The MCP had been most recently reviewed in December 2016 and the Cyanide Decommissioning Plan reviewed in March 2017. Both documents were current at the time of this audit.

Standard of Practice 5.2

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

The operation is
- ☑ in full compliance with
- ☐ in substantial compliance with Standard of Practice 5.2
- ☐ not in compliance with

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 5.2.

TGM calculates the costs associated with third party cyanide decommissioning measures, as part of their overall mine closure cost calculations, performed annually. TGM uses the AngloGold Ashanti Mine Rehabilitation and Closure Model spreadsheet to calculate closure costs. The audit determined that TGM has sufficiently estimated the costs associated with cyanide decommissioning.

TGM has been in operation for less than 5 years at the time of conducting this initial certification audit. However, cost estimates are currently reviewed on an annual basis. Evidence of annual cost updates was evident during the site audit through a review of available records.

TGM contributes annual payments to the Mine Rehabilitation Fund, the applicable regulatory framework in Western Australia, managed by the Department of Mines and Petroleum (DMP). Evidence of payment to this Fund for the most recent financial year was observed.

The operation at TGM contributes annually to the Western Australian Mine Rehabilitation Fund in accordance with its legal obligations and therefore demonstrates that it has established a financial mechanism required by Western Australian law to cover the estimated costs for cyanide relayed decommissioning activities.

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 measures as necessary to eliminate, reduce and control them.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 6.1
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 6.1.

TGM has a range of documentation that has been developed which describes how cyanide related tasks should be carried out to minimise worker exposure to cyanide. Descriptions have been developed that include cyanide unloading, plant operations, confined space entry and equipment decontamination.

TGM employs a dedicated technical writer with proven experience working in gold mining operations who produces the processing and maintenance operations written procedures, in various forms including management plans, manuals, standard operating procedures (SOPs), work instructions (WIs) and forms. The documentation reviewed contained requirements for the use of personal protective equipment (PPE) needed to perform the work safely. The first steps outlined in the procedures require the reader to consider the risks associated with the task prior to commencing work. Other pre-work inspection requirements include completing hazard assessments and assigning risk rankings in the work instructions prior to commencing the task.

PPE requirements are included in relevant inductions including the general induction and processing induction. PPE requirements are also on signage at various locations throughout the processing area.

TGM review processes and operational changes through a management of change system which includes evaluation of potential impacts on worker health and safety. Engineering change management process includes risk assessment and is integrated with the normal business process. Change management is signed off by senior management and HSE specialists as needed. Evaluation of process changes are recorded in an electronic register.

Worker input into the health and safety aspects of documented procedures occurs at TGM. Safety is considered and discussed amongst the workforce which include toolbox talks, Job Hazard Assessments, pre-start meetings and shift handover meetings. TGM also conducts regular safety meetings which include a selection of the workforce who are nominated as health and safety representatives.

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.

The operation is
- ☑ in full compliance with
- ☐ in substantial compliance with
- ☐ not in compliance with

Standard of Practice 6.2

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 6.2.

TGM has determined the appropriate pH for limiting the evolution of HCN gas during mixing and production activities through operational set points established for the metallurgical process.

The operation uses both fixed and personal monitors to monitor HCN gas in the process plant. 10 fixed monitors are installed in various locations throughout the process plant area. Personal monitors are also required to be worn in the process area. Signs are used to indicate areas where a personal HCN monitor is mandatory.

Response to monitor alarms is outlined in all procedures involving working with cyanide or in the process area. Supplies of PPE located around site were visible including full-face respirators in strategic locations around the processing plant available for use if required.

TGM metallurgical instrument technicians are responsible for the maintenance and inspection of HCN monitoring equipment. Fixed HCN monitors are checked on a weekly basis through a scheduled PM generated in SAP. Metallurgical instrument technicians are trained by the manufacturers to conduct formal calibration checks. Personal monitors are bump tested on a weekly basis. If the units fail the bump test they are taken out of service for maintenance and recalibration.

The audit confirmed that suitable warning signs are in place advising that cyanide is present. Signage also includes prevention of smoking, eating and drinking and also mandates required PPE to be worn.

Showers, low-pressure eyewash stations and dry powder or non-acidic sodium bicarbonate fire extinguishers located at strategic locations throughout the operation and are maintained, inspected and tested on a regular basis.

Reagent strength cyanide pipelines were labelled with lilac coloured labels showing direction of flow. The cyanide unloading areas and storage tank were labelled.

Safety Data Sheets (SDS), first aid procedures and informational materials on cyanide safety were available in the language of the workforce (English) in areas where cyanide is managed.

Procedures are in place, to investigate and evaluate cyanide exposure incidents to determine if the operations programmes and procedures to protect worker health and safety, and to respond to cyanide exposures, are adequate or need revising. There is a system used for reporting and investigating incidents and an Incident Investigation Procedure. Once an incident has been observed, the incident report form is completed by the individual and their supervisor. TGM uses a dedicated database to develop, document and track corrective actions.

Standard of Practice 6.3

Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 6.3
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 6.3.

TGM has developed a Cyanide Emergency Response Plan which includes specific responses to a range of emergency situations. TGM has installed oxygen, cyanide antidote and first aid kits throughout the cyanide facilities. These supplies are inspected on a routine basis and replenished/replaced as specified by the manufacturer's requirements. In the event of a cyanide exposure the operation has its own on-site capability to provide first aid or medical assistance to workers in the form of a First Aid clinic staffed full time by a Registered Nurse. Process personnel communicate with the control room via radio or calling the emergency number with fixed or mobile phones.

If it is determined that a patient will require off site treatment TGM have a procedure in place to fly the patient to either Kalgoorlie or Perth via the Royal Flying Doctors. TGM has formalised agreements in place with external emergency response organisations.

TGM conducts regular mock emergency drills involving different emergency situations and responses. Any corrective actions learned from the drills are recorded and improvements to emergency response plans are implemented.

PRINCIPLE 7 – EMERGENCY RESPONSE

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

Standard of Practice 7.1

Prepare detailed emergency response plans for potential cyanide releases.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 7.1
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 7.1.

TGM has developed detailed emergency response plans for potential cyanide releases. The emergency plans cover a wide range of plausible scenarios, including emergencies during transportation, and prescribe the appropriate responses and actions during these scenarios.

Plausible emergency events include:

- Release of HCN gas from unloading and storage facilities and from fires/explosions;
- Transport accidents – as coordinated with AGR, the CN transporter and manufacturer;
- Release during unloading of liquid NaCN;
- Pipe, valve and tank ruptures;
- Overtopping of ponds and TSF;
- Power outage and pump failures;
- Uncontrolled seepage from TSF; and
- Failure of the TSF impoundment.

Appropriate responses and actions include:

- Site evacuations;
- Use of breathing apparatus and other PPE during response;
- Use of fire suppression or containment equipment;
- Notification of external authorities;
- Treatment of injured personnel including use of oxygen, cyanide antidote and first aid equipment;

- Control of release from source;
- Containment assessment mitigation and future prevention of releases;
- Decontamination and disposal of contaminated material.

Standard of Practice 7.2

Involve site personnel and stakeholders in the planning process.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 7.2
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 7.2.

TGM has involved its workforce and external stakeholders, where applicable, in the cyanide emergency response planning process. The TGM workforce is primarily involved with emergency response planning through the emergency drills carried out and will input to response planning via the drill debrief process.

Communities and external responders have input to the emergency planning at TGM through its participation on the Kalgoorlie Esperance District Emergency Management Committee (DEMC). TGM's facilities are in a very remote area with no surrounding communities or immediate neighbours. As such, direct involvement with surrounding communities is primarily through TGM's representation on the DEMC. Other regional emergency response agencies including Fire and Emergency Services, Police, St John Ambulance and Shire councils are also engaged through the DEMC.

Standard of Practice 7.3

Designate appropriate personnel and commit necessary equipment and resources for emergency response.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 7.3
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 7.3.

TGM has an established Emergency Response organisation structure which identifies the personal roles and responsibilities for an emergency. The ESO is responsible for responding to the Emergency On-call Mobile Phone. Training is provided to all emergency responders to enable them to perform their role competently. All Emergency Response Team (ERT) members are trained in the use of equipment used to respond to emergency situations and must demonstrate competency in the use and maintenance of this equipment.

TGM's Emergency Management Plan lists the emergency equipment available on-site. The ESO and ERT members conduct daily, weekly and monthly checks on emergency equipment. TGM has established formal mutual aid agreements with several outside entities. TGM has communicated and confirmed that these entities are aware of their role in the Emergency Management Plan.

Standard of Practice 7.4

Develop procedures for internal and external emergency notification and reporting.

☑ in full compliance with

The operation is ☐ in substantial compliance with Standard of Practice 7.4

☐ not in compliance with

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 7.4.

TGM's Emergency Management Plan includes procedures and contact information for notification of management, regulatory agencies, outside response providers, medical facilities, potentially affected communities and the media.

Standard of Practice 7.5

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

☑ in full compliance with

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

☐ not in compliance with

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 7.5.

TGM's Emergency Management Plan includes reference to the TGM Cyanide Spill Response Procedure. The procedure describes responses based on the size and type of spill and includes the description of clean up and decontamination of soil, containers and equipment used in the clean-up. The procedure requires that ferrous sulphate not be used for treatment of soils where cyanide has entered surface water drains, or where the ferrous sulphate is likely to be washed into these drains. The monitoring of soil and water after a spill clean-up and neutralisation is described in the Spill Response Procedure.

Standard of Practice 7.6

Periodically evaluate response procedures and capabilities and revise them as needed.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 7.6
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 7.6.

TGM periodically evaluates response procedures and capabilities and revises them as needed. As part of the emergency management planning, TGM undertake debriefing sessions at the conclusion of mock drills and actual incidents whereby feedback from TGM workforce and outside entities is reviewed and procedures and management plans are updated as required. The TGM Emergency Response Team conduct a range of emergency training exercises throughout the year. These exercises are focussed on enhancing emergency preparedness at the individual and team level. All incidents and hazards are reported in the TGM incident management database. Significant incidents are investigated and an investigation team completes a report. Corrective actions from incident investigations are managed and where applicable will include revision and update of procedures and management plans.

PRINCIPLE 8 – TRAINING

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

Standard of Practice 8.1

Train workers to understand the hazards associated with cyanide use.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 8.1
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 8.1.

TGM trains all personnel who may encounter cyanide in hazard recognition. This training is primarily in the form of required inductions prior to commencing work or visiting on-site. All staff and contractors who are working on-site must complete the General Induction. The General Induction includes a range of material on cyanide including the type of cyanide used, how it is stored, safety measures, emergency response and symptoms and responses to exposures. Those people who are required to enter the process plant as part of their work role must also complete the Processing Induction and the Cyanide Awareness course. The Processing Induction and Cyanide Awareness Induction includes a verification of competency requirement. Cyanide hazard recognition and refresher training has been completed for all required personnel at TGM. The Cyanide Awareness course requires annual refresher training to be conducted. The General and Process Inductions require 5 yearly refresher training to be conducted. The operation uses a training database to record training requirements and training records.

Standard of Practice 8.2

Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 8.2
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 8.2.

TGM trains workers 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 received by new starters covers site inductions, cyanide awareness, operational training manuals and task specific procedures. The operational training manuals and procedures cover training related to normal production tasks. Workers are assessed, via written and practical assessments, on the content of the manuals to ensure competency is demonstrated.

Personnel (employees and contractors) are trained in cyanide awareness prior to being able to undertake work in the processing area where they may encounter cyanide. The cyanide awareness is included in the initial induction programme. The Cyanide Awareness course requires annual refresher training to be conducted. The General and Process Inductions require 5 yearly refresher training to be conducted.

Training in the TGM manuals and procedures is conducted by experienced personnel with substantial experience in gold processing operations. The personnel who conducted the training records reviewed during the audit also have qualification in Cert IV Training and Assessment (TAE). Records are retained throughout an individual's employment documenting the training they receive. The records include the names of the employee and the trainer, the date of training, the topics covered, and if the employee demonstrated an understanding of the training materials.

Standard of Practice 8.3

Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 8.3
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is fully compliant with Standard of Practice 8.3.

The General Site Induction is required by all TGM personnel and contractors and includes a basic understanding of cyanide hazard recognition and who to contact in case of an emergency. Personnel working in the process plant undertake additional cyanide awareness training that includes emergency response aspects such as basic first aid, spill clean-up and use of PPE. Emergency Response Team (ERT) members undergo further training that includes: Cert II Medical Emergency First Response, road crash rescue, breathing apparatus use, HAZMAT and Fire Fighting. The ERT are required to undertake regular skills maintenance training. Process personnel also take part in emergency response exercises that are coordinated by the ERT.

ERT members, including coordinators, undergo HAZMAT refresher training twice per year. The training includes drill exercises and provides training requirements for equipment. The cyanide awareness training is refreshed annually for all process personnel, the ERT and other workers who may be exposed to cyanide. Training records are maintained for ERT members.

TGM has communicated and confirmed that role of outside entities included in the Emergency Management Plan are aware of their involvement through formal mutual aid agreements. Cyanide incident drills and desktop studies covering worker exposure and environmental release scenarios are conducted regularly. A full-scale emergency response exercise involving external response organisations and other stakeholders is scheduled once a year. All emergency drills include debrief reports that capture lessons learned and opportunities for improvement. Evaluation of the emergency exercises is evidenced through the drill debrief records.

PRINCIPLE 9 – DIALOGUE

Engage in public consultation and disclosure.

Standard of Practice 9.1

Provide stakeholders the opportunity to communicate issues of concern.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 9.1
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 9.1.

TGM is in a remote region of Western Australia. No residential populations exist within 300km of the site. Some indigenous communities are in the region although the nearest of these is 220km away from the operational area. As such, TGM has limited stakeholders with which to conduct communication with regarding the management of cyanide. The operation has determined that its primary stakeholders are its own workforce and regulatory agencies.

Communication on management of cyanide for internal stakeholders is undertaken through a range of processes including safety meetings, site inductions, toolbox talks and contractor meetings.

A cyanide information sheet is available to anyone working or visiting TGM which specifies that the TGM processing department can be contacted for any further information about cyanide management. This was viewed as available on the front administration desk during the audit.

TGM also facilitates family visitation days where family members of personnel working onsite have the opportunity to see the TGM operations and interact with the processing personnel. Visitors must also complete the induction which contains information on cyanide.

During the development of the PER there was a formal public comment period which included a series of public forums (held in Kalgoorlie and Perth). Details regarding the project were provided to the public during these forums including an opportunity for the public to ask questions. A Response to Submission document was prepared to provide information to the public in response to any comments or questions.

Standard of Practice 9.2

Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 9.2
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 9.2.

TGM is in a remote region of Western Australia. No residential populations exist within 300km of the site. Some indigenous communities are in the region although the nearest of these is 220km away from the operational area. As such, TGM has limited stakeholders with which to conduct communication with regarding the management of cyanide. The operation has determined that its primary stakeholders are its own workforce and regulatory agencies.

Communication on management of cyanide for internal stakeholders is undertaken through a range of processes including safety meetings, site inductions, toolbox talks and contractor meetings. A cyanide information sheet is available to anyone working or visiting TGM which specifies that the TGM processing department can be contacted for any further information about cyanide management. This was viewed as available on the front administration desk during the audit.

A Public Environmental Review of the TGM included a formal public comment period consisting of a series of public forums (held in Kalgoorlie and Perth). Details regarding the project were provided to the public during these forums including an opportunity for the public to ask questions. A Response to Submission document was prepared to provide information to the public in response to any comments or questions.

Standard of Practice 9.3

Make appropriate operational and environmental information regarding cyanide available to stakeholders.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Standard of Practice 9.3
	☐ not in compliance with	

Basis for this Finding/Deficiencies Identified:

Based on the findings of the audit TGM is in Full Compliance with Standard of Practice 9.3.

TGM is in a remote region of Western Australia. No residential populations exist within 300km of the site. Some indigenous communities are in the region although the nearest of these is 220km away from the operational area. As such, TGM has limited stakeholders with which to conduct communication with regarding the management of cyanide. The operation has determined that its primary stakeholders are its own workforce and regulatory agencies.

A cyanide information sheet is available to anyone working or visiting TGM which specifies that the TGM processing department can be contacted for any further information about cyanide management. This was viewed as available on the front administration desk during the audit.

The TGM Public Environmental Review is available on the operation's publicly accessible website and contains information regarding the use of cyanide. The Cyanide Code and TSF management Kiosk is available on the intranet website, which is accessible to all AngloGold Ashanti Australia employees.

Information on cyanide exposures or releases would be provided in the corporate Sustainability Reports developed by AngloGold Ashanti on an annual basis. The Prescribed Premises License Report submitted to the Department of Environment Regulations (DER) contains externally reportable incidents that will include any cyanide related incidents. This report is not publicly published by the DER but is available on request. No instances of cyanide exposures or releases have occurred at TGM in the 12 months preceding the audit.