REPORT

ICMI Gold Mine Recertification Audit - Summary Report

AngloGold Ashanti Geita Gold Mine

Submitted to:

International Cyanide Management Institute (ICMI)
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1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Cyanide User Facility:	Geita Gold Mining Ltd.
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2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

2.1 Mine Location

The Geita Gold Mining operation is situated in the Lake Victoria Gold fields of north-western Tanzania, approximately 85 kilometres from Mwanza and 20 kilometres southeast of the nearest point of Lake Victoria. The company has its head office in Geita, 5 kilometres west of Geita town, and also a supporting office in Dar es Salaam, Tanzania.

2.2 Background

Geita Gold Mine is located in North-Western Tanzania in the Lake Victoria goldfields in the Geita region, approximately 120 km from Mwanza City and 4 km west of the township of Geita.

The mine has been in operation as a large-scale mine since 2000. The Geita gold deposit is currently mined as a multiple open-pit and underground operation.

The Geita process plant was designed and constructed by Lycopodium, a process engineering company based in Perth, Western Australia. The plant, commissioned in June 2000, had a conventional gold ore processing flow sheet with a design throughput capacity of 4 million tonnes per annum. In December 2002 a secondary crushing plant, two additional leach tanks and the cyclone classification circuit were upgraded, resulting in the throughput capacity of the plant being raised to 6 million tonnes per annum for a predominantly soft blend (and around 5 million tonnes per annum for a harder blend). In 2011, a tertiary crushing plant was constructed to improve mill feed stability.

The process plant includes:

- Primary, secondary and tertiary crushing plants
- Semi-autogenous grinding (SAG) mill and ball mill
- SAG mill scats recycle line - (Scats/pebble crusher was decommissioned)
- G-max Cyclones
- High-rate thickener
- Pre-oxidation in the first 2 tanks followed by a ten-stage carbon-in-leach (CIL) process
- Gold recovery circuit (Elution, Electrowinning and Smelting)
- Gravity concentration section within the milling and classification circuit, where the gravity gold is recovered using Knelson concentrators and an intensive cyanidation process, also referred to as the Acacia Reactor.

The primary crusher can treat 1000 tons per hour. The material from the primary crusher is further crushed through secondary and tertiary crushers to reduce the material to a size that can be handled by the SAG mill. The crushed material is stockpiled on the fine ore stockpile and control-fed into the SAG mill.

The concentrate from the gravity circuit (Knelson concentrators) enters the closed-circuit Acacia Reactor from where the solution is pumped to the gold room where it is passed through a dedicated electro winning cell.

The overflow material from the cyclones passes through linear screens, before entering the 25m diameter high-rate de-watering thickener. The overflow from the thickener flows into a settling dam, which has provision to overflow into the emergency pond, in case the settling pond is full.

The SAG and the Ball mills grind the material into finer particles (P80 of 106 microns) where gold particles are liberated. The milled product is pumped into a cluster of classifying cyclones to separate the fine products from the coarse products. Coarse product is recycled back to the ball mill for regrinding while a portion of it is fed into the gravity concentrators where free gold is recovered.

The fine product slurry is thickened in a thickener to reduce the amount of process water in the slurry before pumping into a train of CIL tanks. All process water is recovered and recycled through the mills.

The underflow from the thickener first enters a series of two pre oxidation tanks in the CIL circuit, and then it flows into the first leach tank where the first stage sodium cyanide is added. Second stage addition is done into Tank #6 to maintain a more consistent free cyanide profile in solution at lower terminal values. Cyanide addition is controlled automatically using a TAC 1000 control unit. There are ten leach tanks in total. All ten CIL tanks have activated carbon which is moved counter currently to the slurry flow. The overflow from the final leach tank passes through a safety screen to recover any escaped carbon, and then into a tailings tank from where it is pumped to the tailings dam. The carbon safety screen overflow passes through a fine carbon vibrating screen to remove grits and recover all fines carbon for further treatment.

Loaded carbon is recovered from the first CIL tank into an elution column where hot caustic solution is used to strip gold from the loaded carbon. The gold in solution is passed through electrowinning cells for the gold to be deposited on stainless steel cathodes. The gold sludge is then cleaned, mixed with fluxing agents and then smelted into gold bars.

WAD (Weak Acid Dissociable) cyanide to the Tailings Storage Facility (TSF) is controlled firstly via TAC 1000 whereby free cyanide is measured in CIL Tank #10 and Tank #12 prior to discharge to the Tailings Hopper and then WAD cyanide is measured via a WAD 1000 cyanide analyser. The upper level of concentrations of WAD cyanide considered safe for migratory birds and flowing water is 50 ppm. During periods of low dilution water or spikes in WAD cyanide, hydrogen peroxide is added in the tails line as means of cyanide destruction.

The tailings from the process plant are deposited into a fully contained tailings dam. This dam is located 3 kilometers north of the plant site. The main embankment runs around three sides of the facility. The dam walls are constructed from mine waste. Tailings are deposited from the embankment using conventional spigot type discharges. This generates and maintains a pond of clear water within the dam where a decant barge has been installed.

The decant water is pumped back to the thickener inside the processing plant. Water from the thickener overflows to the settling ponds before being used in the mill. The water in the thickener and settling ponds are topped up with raw water from the raw water pond. The return water in the thickener is below 0.5 mg/L WAD cyanide.

Cyanide is delivered to site and stored, until required for mixing, in solid briquette form in one-ton flexible intermediate bulk containers (FIBC) comprising poly-woven bags inside plywood boxes. The FIBCs are transported by sea in shipping containers to the Port of Dar es Salaam and the containers are then transported by road to the mine.

3.0 SUMMARY AUDIT REPORT

3.1 Auditor Findings

	☒ **in full compliance with**	
		The International
AngloGold Ashanti Geita	☐ in substantial compliance with	**Cyanide Management**
Gold Plant is:		**Code**
	☐ not in compliance with	

Audit Company:	WSP Group Africa (Pty) Ltd
Audit Team Leader:	Marié Schlechter, Lead Auditor and Mine Technical Specialist
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This operation has not experienced any compliance issues during the previous three-year audit cycle.

Dates of Audit

The re-certification audit was undertaken between 12 and 15 September 2022.

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader and Mine Technical Specialist, established by the International Cyanide Management Institute (ICMI).

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 Mining Operations Verification Protocol and using standard and accepted practices for health, safety and environmental audits.

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 1.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with Standard of Practice 1.1; to purchase cyanide from certified manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide, and to prevent releases of cyanide to the environment.

The cyanide purchased for use at Geita Gold Mine is manufactured at facilities certified as being in compliance with the Code. Cyanide was purchased from the following producers during the current recertification period:

- The Tongsuh Petrochemical Corporation., Ltd production facility is certified as being in full compliance with the Code on 9 March 2020 with the prior recertification being dated March 2017.
- The TaeKwang Industrial Co., Ltd production facility is certified as being in full compliance with the Code on 24 July 2020 with prior recertification being dated June 2017.
- Orica's Yarwun production facility is certified as being in full compliance with the Code on 17 September 2020 with prior recertification being dated 22 February 2017.
- The Australian Gold Reagents Pty Ltd production facility is certified in being in full compliance with the Code on 22 September 2020 with prior recertification being dated July 2017.

Geita Gold Mine currently has an agreement for the supply of sodium cyanide with Australian Gold Reagents Pty Ltd.

PRINCIPLE 2 – TRANSPORTATION

Protect Communities and the Environment during Cyanide Transport

Standard of Practice 2.1: **Require that cyanide is safely managed through the entire transportation and delivery process from the production facility to the mine by use of certified transport with clear lines of responsibility for safety, security, release prevention, training and emergency response.**

☒ **in full compliance with**

The operation is

☐ in substantial compliance with **Standard of Practice 2.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with Standard of Practice 2.1; require that cyanide is safely managed through the entire transportation and delivery process from the production facility to the mine by use of certified transport with clear lines of responsibility for safety, security, release prevention, training and emergency response.

The identified transporters are individually certified in compliance under the Code or included in certified supply chains:

- The Samsung Africa Supply Chain includes transport from manufacturers in Korea using certified carriers SAM IK Logistics Co. Ltd. and Hae Dong Logistics to Pusan New Port, South Korea, followed by ocean transport by shipping companies MSC, Maersk Hapag Lloyd, and Safmarine to, inter alia, the port of Dar es Salaam. The Samsung Africa Supply Chain is a certified transporter under the Code and was recertified on 15 June 2021.
- The Orica Australia Supply Chain covers the transportation of solid cyanide from the manufacturing facility in Yarwun, Australia, by road and rail to the Ports of Brisban, Gladstone, Alma and Melbourne and storage within the Toll Customised Solutions production facility. The Orica Australia Supply Chain is a certified transporter under the Code and was recertified on 04 February 2022.
- The Orica Global Marine Supply Chain includes the shipping lines Maersk, Hamburg Sud, Mediterranean Shipping Company, Orient Overseas Container Line, Swire Shipping, Australia National Line, Pacific Asia Express, Navierra Ultranav Transmares, K Line, Mitsui OSK Lines, and Toll Shipping. It also includes, inter alia, the destination port of Dar es Salaam. The Orica Global Marine Supply Chain is a certified transporter under the Code and was recertified on 16 June 2021.
- The Australian Gold Reagents Africa Supply Chain covers, inter alia, the transportation of cyanide by road from the Kwinana production facility to the Fremantle Port. From the Fremantle Port it is transported to international ports, including the Port of Dar es Salaam, using the Mediterranean Shipping Company Pty Ltd. (MSC), Maersk Australia Pty Ltd (Maersk) and Ocean Network Express (ONE). The Australian Gold Reagents Africa Supply Chain is a certified transporter under the Code and was recertified on 26 July 2021.
- Freight Forwarders Tanzania is a certified transporter under the Code and was recertified on 06 December 2021.
- Primefuels Tanzania was pre-operationally audited by a qualified Cyanide Code Transportation technical expert auditor, and the pre-operational draft audit report was submitted to the ICMI in December 2021. The

ICMI subsequently reviewed the draft audit report and granted permission for Primefuels Tanzania to begin transporting cyanide to certified mines, although the report was not finalized, in part due to COVID-19. Primefuels Tanzania subsequently underwent a full operational audit completed (completed on 02 June 2022), the audit report was submitted to ICMI on 23 August 2022, and was reviewed and accepted as complete by ICMI on 20 September 2022. Primefuels Tanzania was subsequently certified in full operational compliance on 27 September 2022.

Chain of custody records observed state that solid sodium cyanide was ordered and transported as follows:

- Samsung C&T Deutschland GMBH via the certified Africa Supply Chain to the port of Dar es Salaam, transported by Freight Forwarders Tanzania to the mine.
- Orica Australia Pty Ltd. via the certified Global Marine Supply Chain to the port of Dar es Salaam, transported by Freight Forwarders Tanzania to the mine.
- Australia Gold Reagents via the certified Africa Supply Chain to the port of Dar es Salaam, transported by Freight Forwarders Tanzania and Primefuels Tanzania.

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

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with 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.

The facilities for unloading, storing and mixing of cyanide have been professionally designed and constructed in accordance with applicable jurisdictional rules and sound and accepted engineering practices, as detailed in the initial Code certification audit. The cyanide reagent facilities consist of a cyanide mixing tank and a cyanide storage tank, located at the reagent area inside the plant area. It was confirmed during the recertification audit that no changes were made to these facilities since the previous recertification audit.

The cyanide unloading, mixing and storage areas are away from people and away from surface waters. The solid cyanide storage facility as well as the cyanide mixing and storage tank areas are inside fenced and locked areas that are located inside the high security area of the plant. The cyanide make-up crew and the Supervisor can excess these areas during day-time only. The key is kept with the supervisor. No authorised entry is allowed and special permission, with sign in, in a register, is required to enter the area.

The operation receives only solid cyanide in crates.

There is a method to prevent the overfilling of the cyanide mixing and storage tanks, such as a level indicator, alarms and automated cut off on the pumps. Level indicators and alarms are installed on both the cyanide mixing and the cyanide storage tanks. The levels of these tanks and alarm levels are visible to the control room operator on the SCADA (supervisory control and data acquisition) system in the control room as well as to the reagent operators at the tank level indicators on top of the cyanide mixing tank. The level instrumentation, alarms and cut-off valves are inspected and maintained through the SAP planned maintenance system. The level indicators on cyanide mixing and holding tank are inspected and tested monthly as part of the SAP inspections.

The cyanide mixing and storage tanks are positioned on solid concrete bases within a reinforced concrete bunded area, providing a competent barrier to leakage and prevent seepage to the subsurface. An annual flood test is conducted to ensure the integrity of cyanide bund.

The solid cyanide crates are stored in the reagent storage area under a roof and on concrete floor. The wooden crates have built-in pallets, thereby lifting the crate of the ground to minimise the potential for contact with water. The floor of the warehouse is sloped towards trenches on two sides to direct rainwater away from the cyanide boxes.

The cyanide crate storage area is roofed to prevent direct exposure to sunlight and rain, and the open sides provides adequate ventilation to prevent the build-up of hydrogen cyanide gas. The cyanide storage tank is equipped with a ventilation pipe to release any hydrogen cyanide (HCN) that is present in the tanks. The tanks and the cyanide crate storage area are an open-air environment.

Both the cyanide box storage area and the liquid cyanide storage tank are in secondary fenced and locked areas of inside the high security area of the plant

Both the solid and liquid cyanide is stored separate from incompatible materials.

Standard of Practice 3.2: **Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.**

The operation is

☒ **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; 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.

Empty cyanide crates are stored inside the locked reagent storage area that is located inside the high security area of the processing plant. The plastic bags, liners and wooden crates are rinsed three times on the inside and outside, dismantled and stored in the locked reagent storage area. The crates are collected for disposal (buried) at the mine's active waste rock dump. The crates are dumped on the waste rock dump (WRD) and fully covered by waste rock to a minimum depth of 1m. The plastic liners and bags are incinerated at the incinerator inside the plant. Cyanide containers are not returned to the supplier.

Procedures are in place that detail:

- The operation of valves during the cyanide mixing process and transfer to the cyanide storage tank.
- The handling of cyanide boxes during removal and storage to minimize the risk of rupturing or puncturing by the forklift.
- Limiting the height of stacking of cyanide boxes in the reagent storage area.
- Timely clean-up of any spills of cyanide during mixing.
- The requirement for a second individual to observe the mixing event from a safe distance.
- The requirement to wear the appropriate level of personal protective equipment (PPE).
- The addition of colorant dye during the cyanide mixing process.

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 preventive maintenance procedures.**

☒ **in full compliance with**

The operation is

☐ in substantial compliance with **Standard of Practice 4.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Geita Gold Mine has developed written procedures for the operation of cyanide facilities including unloading, mixing and storage facilities, CIL plant procedures, TSF management and cyanide destruction.

The operation has plans and procedures that identify the assumptions and parameters on which the facility design is based and any applicable regulatory requirements as necessary to prevent or control cyanide releases and exposures consistent with applicable requirements.

Critical parameters include:

- The concentrations of WAD cyanide discharge at the TSF spigot.
- pH at discharge points of cyanide containing effluent.
- The design storm event and required freeboard for plant ponds and impoundments.

The operation has plans and procedures that describe the standard practices necessary for the safe and environmentally sound operation of the facility including the specific measures needed for compliance with the Code, such as water management, inspection and preventative maintenance activities. The *TSF Operating Manual* stipulates the requirements for operation of the TSF freeboard, supernatant pond control and water management measures to ensure the safe and environmentally sound operation of the facility.

Inspections are conducted at the following areas and frequencies:

- Daily TSF inspection.
- Quarterly TSF surveillance inspection.
- Annual TSF inspection.
- Quarterly and annual independent TSF inspection.
- Daily reagents mixing and storage area inspection.
- Daily reagent storage area inspection.
- Weekly cyanide area inspection.

- Cyanide mixing inspection.

Geita Gold Mine has implemented the computer-based SAP Planned Maintenance System to plan and schedule inspection and maintenance activities at varying frequencies.

Geita Gold Mine has implemented a *Change Management Procedure* to provide guidelines for the management of risks that may result from change to a process, equipment or substance. The procedure applies to all areas and sections within the Geita processing plant area of responsibility. The procedure details the change management process used at the process plant and requires the following information / steps to be described and followed during assessment of the proposed change:

- Identify change
- Describe and assess change
- Approve change
- Records of documentation
- Monitor and evaluate change
- Communicate and implement change

The Health, Safety, Environment and Training Department participates and sign off on the change management process.

The operation has cyanide management contingency procedures for situations where there is an upset in the facility's water balance, when inspections and monitoring identify a deviation from design or standard operating procedures, and/or when a temporary closure or cessation of the operation may be necessary. The operation has developed a number of procedures for contingencies and non-standard operating conditions, including upset in water balance, corrective action, and ether planned or emergency shutdowns, both long and short-term.

The operation inspects the following at unloading, storage, mixing and process areas, as applicable to the site:

- Tanks holding cyanide solution for structural integrity and signs of corrosion.
- Secondary containments provided for tanks and pipelines for physical integrity, the presence of fluids and available capacity, and to ensure that any drains are closed and, if necessary, locked, to prevent accidental releases to the environment.
- Leak detection and collection systems at leach pads and ponds, as required in the design documents.
- Pipelines, pumps and valves for deterioration and leakage.
- Ponds and impoundments for the parameters identified in their design documents as critical to their containment of cyanide and solutions and maintenance of the water balance, such as available freeboard and integrity of surface water diversions.

The operation inspects cyanide facilities on an established frequency sufficient to assure and document that they are functioning within design parameters. Operational inspections are carried out on a daily and weekly basis at the reagent storage area, cyanide mixing and storage tank area, CIL, Acacia Reactor, TSF and water storage ponds, while additional 6-monthly, annual and 5-yearly inspections and testing are conducted at the process tanks TSF pipelines. Preventative and planned maintenance inspections are conducted on frequencies

varying between daily, weekly, monthly, 3-monthly, 6-monthly, quarterly, annually and 5-yearly, dependent on the equipment and area, dependent on risk.

Inspections are documented, listing specific items to be observed, includes the date, name of the inspector and any deficiencies observed. The nature and date of corrective actions are documented in the planned maintenance system. The auditor verified that corrective actions are followed up on non-maintenance inspections and that job orders are placed in the SAP system. Inspection records are retained.

Preventative maintenance programs are implemented, and activities documented to ensure that equipment and devices function as necessary for safe cyanide management. Geita Gold Mine uses the SAP Preventative Maintenance System to manage all maintenance tasks including those identified during inspections and ad hoc observations. Planned maintenance schedules are generated in the system which is then automatically issued at the prescribed date and/or frequency as a work order. Maintenance schedules are determined according to the level of risk associated with the equipment and/or manufacturer recommendations and specifications. The schedules include daily, weekly, monthly and annual inspections

The operation has the necessary emergency power resources to operate pumps and other equipment to prevent unintentional releases and exposures in the event of power interruption.
Two standby diesel generators are available for the plant, one for the CIL and one for the TSF, to run critical equipment. Weekly inspections are conducted at the standby generators to ensure it functions optimal when required. During the inspection, the generators are started, and electrical parts are checked. The CIL generator will run the agitators, intertank screen and carbon advance pump. During a power failure, the reagent strength cyanide in the pipelines will drain back to the cyanide storage tank without spillage to the environment. The generator at the TSF is used to run the decant pump to prevent overtopping of the supernatant pond.

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	

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with Standard of Practice 4.2; To introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

The operation conducts a program to determine appropriate cyanide addition rates in the CIL and evaluate and adjust addition rates as necessary when ore types or processing practices change cyanide requirements.

The processing plant treats different sources of ore from both opencast operations as well as underground operations. Optimisation rest work is conducted on the individual ore sources as well as on blended ore sources to determine the optimal cyanide addition rates.

In additional to the internal test work conducted, external al test work is conducted for new mining areas to determine the potential recovery and reagent optimisation. This external test work is done annually for all new areas to be mined in the next year.

Monthly grade control test work is done on the weekly feed material to the plant. The objective is to identify areas to improve recovery as well as to understand ore behaviour changes in terms of reagent usage.

Daily tailings re-leach test work is conducted to determine cyanide consumption and potential recovery. Samples are taken from the tails tank and bottle roll tests are conducted for 3hrs and 24hrs respectively. The objective of the test work is to determine whether changes are required to ensure optimal recovery of the gold in terms of residence time and/or cyanide addition rate.

Two stage cyanide addition, by means of an automatic TAC1000 analyser, is done in the first leach tank (CIL Tank No.3) and mid CIL tank (CIL Tank No.6).

As second TAC 1000 is installed on the final leach tanks (CIL Tank No. 10 and 12) to control cyanide addition in accordance with to cyanide setpoint.

Manual titrations are done from samples taken at CIL Tank No. 3, 6, 10 and 12, every 2 hrs. To ensure that the online TAC 1000 analyser is performing optimally and correct.

An automatic Weak Acid Dissociable (WAD) analyser is installed on the tails hopper to measures the WAD cyanide on a continuous basis (sample taken every 30 minutes). A high-high level alarm is set at 50 ppm and a high-level alarm at 40 ppm. The WAD cyanide readings inform any changes required on the cyanide addition.

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	

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 program to protect against unintentional releases.

Geita Gold Mine has implemented a comprehensive and probabilistic water balance model using the OPSIM software.

The water balance includes the processing plant, TSF as well as the mining pits, nearby rivers and other infrastructure influencing the mine wide water balance. Simulations are run to forecast and determine the effect of different rainfall patterns on the simulation period based on rainfall data from the past 39 years.

Monthly data is collected by the operational personnel and the model are updated accordingly. The data includes, *inter alia*, volume and density of tailings deposited on the TSF, water returned from the TSF, rainfall and evaporation. Simulations are run on a quarterly basis based on historical data included in the model for decision making.

Bathymetric surveys are conducted annually on the water ponds, including the raw water pond, process pond, emergency pond and the TSF supernatant pond, in order to update the water balance model. The bathymetric surveys provide information on the shape and volume of the supernatant pond which is then used to do predictions on possible overtopping of the TSF.

In addition to the OPSIM water balance, a static TSF water balance is maintained.

The water balance considers the following in a reasonable manner and as appropriate for the facility and the environment:

- Tailings deposition rates are measured daily and included in the static water balance model on a weekly basis. This data is transferred to the OPSIM water balance model.
- The model considers a 1:100 years storm duration and storm return interval to provide a sufficient degree of probability that overtopping will not occur.
- Historic rainfall data, obtained for the Tanzania Government from a meteorological station in the Lake District, were used to populate the water Balance Model (36 years of data). The mine has been recording rainfall data since the commissioning in 2000 and has included this in the water balance model.
- Evaporation data collected on-site.
- Rainfall and run-off data pertaining to the upgradient watershed entering the plant and TSF is included in the model.
- Tanzania is situated in the tropics and is therefore not affected by freezing and thawing conditions.
- Seepage from the TSF is taken into consideration in the water balance model as well as the capacity of decant.

GEITA GOLD MINE SIGNATURE OF LEAD AUDITOR: **April 2023**

- The water balance model can be run with different scenarios such as a plant shutdown, decant pump not running or a power failure. A generator is available at the TSF to run the decant pumps to prevent overtopping.
- There is no discharge to surface water from either the processing lant or the TSF.
- The water balance model takes into account the assumed phreatic surface in the TSF.

The required operational freeboard for the TSF is 1m and monthly surveillance is conducted to confirm the freeboard levels. The monthly freeboard levels are included in the water balance model.

The level of the emergency pond is measured with an online level detector, visible on the SCADA system in the control room. The sensor is equipped with an automatic high-level alarm. In addition, a measuring pole has been installed indicating the maximum level for the pond and is checked during daily visual inspections conducted at the pond.

Daily TSF inspections and monthly freeboard measurements are conducted at the TSF to confirm the level of the supernatant pond and the available freeboard.

The site receives weekly satellite images of the TSF from an external service provider to observe how the TSF supernatant pond changes and behaves.

Daily rainfall figures are recorded at the mine and included in water balance model on a monthly basis. This information is used to run simulations for decision making.

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 4.4**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Daily WAD samples are collected at the spigot discharge points (6 points) and supernatant pond.

The auditor observed graphs illustrating the WAD cyanide results for the daily sampling conducted at the spigots for the current audit period. The results observed revealed the WAD levels at the spigots are below 50 WAD ppm for the majority of the time, with the exception of isolated exceedance as follows:

- Five exceedances in 2022 and in 2021
- No exceedances in 2020
- Six exceedances in 2019.

The exceedance lasted no more than a day except in November 2021 where two consecutive days of exceedance were recorded. Immediate actions implemented by Geita Gold Mine included, *inter alia,* depending on the cause identified:

- Adjusting the cyanide set point at the dosing points.
- Redirecting the decant pumps to the tails hopper for more dilution prior to deposition at the TSF.
- Dosage of hydrogen peroxide in the tails line for cyanide detoxification.
- Repair of TAC 1000 metering pump and analyser to restore the cyanide control system where malfunction was identified.

As these exceedances were isolated occurrences, no measures have been implemented to restrict access by wildlife and livestock to the TSF and the Process and Emergency Water Ponds. Although the TSF area is not fenced, it lies within the wider fenced mine area, while the Process and Emergency Ponds are located within the fenced area of the plant, thereby restricting access by larger wildlife and livestock. Daily inspections at the TSF and water ponds inside the processing plant concluded that no wildlife mortalities were observed since the previous recertification audit.

A WAD level of 50 ppm or above measured at the spigot will trigger the requirement to complete a High WAD Cyanide Form. Such an incident requires an investigation into the reason for the high WAD cyanide level as well as the mitigation measures taken to resolve the issue. The plant conducts an investigation for every exceedance that occurred and provides a comment on the cause of the exceedance.

The auditor observed graphs illustrating the WAD cyanide results for the daily sampling conducted at the TSF supernatant pond. All results for the current audit period were below 10 ppm WAD cyanide.

The water from the TSF supernatant pond is pumped directly to the thickener. Water from the thickener overflows to the settling ponds before being used in the mill. The water in the thickener and settling ponds are topped up with raw water from the raw water pond. The auditor observed sampling results indicating that the return water in the thickener is below 0.5 mg/L WAD cyanide.

An automatic WAD analyser is installed at the tails hopper that measures WAD cyanide as well as pH in 30-minute intervals. Tailings is pumped from the tails hopper to directly to the TSF. The automatic WAD analyser is connected to a high-level alarm on the SCADA. If high levels of cyanide are present in the tailings material (>50 ppm (parts per million) WAD), the TSF personnel is informed by means of two way radio in order to evacuate until the levels have lowered.

Geita Gold Mine does not have a heap leach facility.

Standard of Practice 4.5:	**Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 4.5**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with Standard of Practice 4.5; to implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

Geita Gold Mine does not have a direct discharge to surface water.

Surface and ground water sampling is conducted monthly at points downstream of the operation. It is evident from the surface and groundwater monitoring, conducted at the operation and downstream, that indirect discharges to surface water do not cause the in-stream concentration of free cyanide to exceed 0.002 mg/l.

There is no evidence that any indirect discharge to surface have caused cyanide concentrations in surface water to rise above level protective of a designated beneficial use for aquatic life.

Standard of Practice 4.6:	**Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 4.6**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation implements specific water management and other measures to manage seepage to protect the beneficial use of groundwater beneath and/or immediately down-gradient of the operation.

The design of the TSF include the following to minimise and manage seepage:

- The natural ferricrete in the area where the TSF was constructed forms a low permeability barrier beneath the tailings, inhibiting seepage of water into the ground water system.
- An underdrain system that is connected to concrete seepage sumps (one on the northern side and one on the north-western side of the TSF). The sumps are equipped with pumps that pump to water back to the decant pond.
- The TSF Operating Manual requires that the decant pond on top of the TSF is kept as small as possible. The size and the location of decant pond is inspected on a daily basis during the daily TSF inspections and it is required that the pool is kept at a minimum of 450 m away from the embankment to prevent seepage at the wall and control the phreatic surface.
    - The site receives weekly satellite images of the TSF from an external service provider to observe how the TSF supernatant pond changes and behaves. From the weekly satellite image of the TSF it can be observed if the pool size is increasing or decreasing and whether it is moving closer to a particular embankment.
    - Monthly beach freeboard survey is conducted to ensure that the pool is kept to a minimum.
    - Bathymetric surveys are conducted annually on the TSF supernatant pond.

The emergency pond in the plant is HDPE (high-density polyethylene) lined. The tanks containing cyanide and process solutions are all placed in concrete secondary containment bunds.

A numerical standard has not been established by the Tanzania Government for WAD or Free cyanide in groundwater. However, a standard has been established for cyanide (it does not specify free, total or WAD cyanide) in drinking water supplies, with an upper limit of 0.20 mg/l. Groundwater monitoring is conducted monthly at boreholes around the plant, TSF and downstream of the mine site. All results were below the detection limit of 0.002 mg/l for WAD, free and total cyanide.

Mill tailings is not used as underground backfill. The mine uses CAF (cemented aggregate fill) for underground backfill.

Seepage from the operation has not caused the cyanide concentrations of groundwater to rise above the levels protective of beneficial use. Groundwater from springs and wells are used for drinking water by the local communities in the area.

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 4.7**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Spill prevention or containment measures are provided for the cyanide unloading area, storage and mixing tanks, the CIL, tailing hopper, Intense Leach Reactor and Ash Leaching Reactor areas. Unloading of the cyanide crates is conducted on a concrete area that slope and drain towards the cyanide mixing and storage bund area. The cyanide storage and mixing tanks are located on solid concrete bases within the concrete bunded area. The CIL tanks are located on ring beams within the concrete bund area. The ring beams for the CIL tanks are all fitted with leak detection system. A visual inspection of the leak detection system is conducted daily by the operators and a monthly sampling is conducted as part of the planned maintenance system, and in accordance with the *Monitoring of CIL Tanks on Ring Beams* procedure. The tailings hopper, Intense Leach Reactor and Ash Leaching Reactor are located in concrete bunds. All cyanide process tanks are equipped with secondary containment.

Secondary containment for cyanide unloading, storage, mixing and process tanks are sized to hold a volume greater than that of the largest tank within the containment and any piping draining back to the tank, and with additional capacity for the design storm event.

All secondary containments are equipped with pumps and pumping systems to return the contents to the process. No sump pump piping systems are directed to the environment.

Spill prevention or containment measures have been provided for all cyanide process solution pipelines. The reagent strength pipelines and cyanide process solution pipelines are inside the plant area and runs over concreted areas that are fitted with sump pumps. The TSF pipelines run in an earth trench that has spillage paddocks to assist with any clean-up of spillage.

The TSF pipelines cross the Nyamonge River. A sealed concrete trench has been installed over the section where the pipelines cross the river, to direct any spillage into the earth pipeline trench and prevent any spillage from running in the river.

The cyanide tanks and pipelines are constructed of material compatible with cyanide and high pH solutions. The tanks and process pipelines are constructed of mild steel, the reagent strength pipelines from stainless steel and the TSF pipelines (slurry and return water) from HDPE.

Standard of Practice 4.8: **Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.**

☒ **in full compliance with**

The operation is

☐ in substantial compliance with **Standard of Practice 4.8**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Quality control and quality assurance (QCQA) programs have been implemented during construction of all new cyanide facilities and modifications to existing facilities, including cyanide unloading, storage, mixing facilities and other cyanide facilities. The QCQA for the operation's cyanide facilities were addressed in the original International Cyanide Management Code (ICMC) certification audit and the subsequent recertification audits.

TSF Phase 3 and Eastern Wall Raise commenced in late 2018 and was completed in early 2020, after the 2019 recertification audit. The 3rd upstream raise (Lift 3) expansion of the TSF involved placing an upstream cap on the embankments to an elevation of 1229.4 masl (meters above sea level). The TSF wall lift was an upstream construction meaning that the new wall was constructed directly onto the existing tailings and only non-acidic forming material (waste rock dump) was used for the construction of the new walls. The construction did not require any foundation construction or preparation and the waste rock was placed by Geita Gold Mine employees using mine equipment. The construction supervision was performed by the AngloGold Ashanti Wall Lift Project Manager and an external contractor performed surveying during the construction to ensure that the waste rock was placed in accordance with the design.

QCQA records for all active cyanide facilities have been retained and this was addressed in the original ICMC certification audit and subsequent recertification audits, including the current audit. The survey report and associated measurements have been retained for the Phase 3 Lift and Eastern berm construction.

The review of cyanide facility construction by appropriately qualified personnel was addressed in the original ICMC certification audit and subsequent recertification audits. A professional Land Surveyor who has worked in the mining industry for more than 10 years, acquiring skills and experience enough to accomplish the exercise to the required standard, oversaw the surveying during the waste rock placement.

An audit was conducted after the completion of the TSF Phase 3 Lift and Eastern Berm construction. The audit was conducted by an independent engineering consultancy and concluded that the TSF was observed to be in good condition with no geotechnical issues outstanding.

A review of the tailings facilities at the Geita Gold Mine was conducted by the Independent Tailings Review Board (ITRB). The review was conducted in accordance with the Global Industry Standard on Tailings Management (August 2020) and the ITRB provides independent technical review of the design, construction, operation, closure and management of tailings facilities. A report documenting the observations of the ITRB was observed by the auditor. No findings relating to a dam safety issue considering immediately dangerous to life, health or the environment, or significant risk of regulatory enforcement were identified. The report was signed off by three professional engineers.

GEITA GOLD MINE SIGNATURE OF LEAD AUDITOR: **April 2023**

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 4.9**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation has developed written standard procedures for monitoring activities, including:

- The *Surface and Groundwater Sampling Procedure* prescribes the methods to be used for the collection, preservation and transportation of all the potable, surface water and groundwater samples collected for Geita Gold Mine.
- Wildlife observations are conducted daily as part of the TSF daily inspections as well as during the surface and groundwater sampling activities. It is listed as an item on the respective checklists and the persons doing the inspections or sampling are required to check and report on any wildlife mortalities.

The sampling and analytical protocols was developed and updated by appropriately qualified persons.

The *Surface and Groundwater Sampling Procedure* describes how the groundwater and surface water samples should be taken, sample preservation techniques, chain of custody procedures, shipping instructions, instruction for shipment to the laboratory, and quality assurance and quality control requirements. It further provides the details of the locations where the samples should be taken.

The Water Quality Monitoring Programme describes the monitoring point number, name, description, location, identify QA/QC samples to be taken and for which suite of analysis each should be analysed for. The suite classes are described in the Chain of Custody documentation.

Sampling conditions are recorded during sample collection and recorded manually in the Field Record Data Sheet Groundwater and Surface Water.

Monitoring is conducted at frequencies adequate to characterise the medium being monitored and to identify changes in a timely manner.

Groundwater monitoring around the TSF is conducted monthly, the rest of the site is quarterly. Surface water monitoring at areas near the TSF is conducted monthly, the rest of the site is either monthly or quarterly (risk level dependent).

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 cyanide facilities to protect human health, wildlife, livestock, and the environment.**

☒ **in full compliance with**

The operation is

☐ in substantial compliance with **Emergency Response Practice 5.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Geita Gold Mine has developed written procedures to decommission cyanide facilities at the cessation of operations. These include the *Detailed Mine Closure Plan, Decommissioning Procedure* and the *Cyanide Decontamination Procedure*.

The *Decommissioning Procedures* provides steps that should be taken 12, 6 and 3 months prior to the closure and decommissioning of the processing plant and associated facilities.

The *Operational Life of Mine and Planning Rehabilitation Timeline* provides the schedule for undertaking the decommissioning activities broken down in section per year as per the current business plan.

The *Detailed Closure Plan* (approved by the Mining Commission under the Ministry of Minerals) is updated every 3 years in accordance with the Tanzania Mine Closure Guideline. The *Decommissioning Procedure* and *Cyanide Decontamination Procedure* are updated every 3 years.

Standard of Practice 5.2: **Establish a financial assurance mechanism capable of fully funding cyanide-related decommissioning activities.**

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 5.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with Standard of Practice 5.2; to establish a financial assurance mechanism capable of fully funding cyanide-related decommissioning activities.

Geita Gold Mine has developed an estimate of the cost to fully fund third-party implementation of the cyanide-related decommissioning measures as identified in its site decommissioning and closure plan.

The *Geita Current Damage Liability Estimate* spreadsheet contains the details of the estimated closure costs for the processing plant, pipelines and infrastructures associated with the TSF and capping and covering of the TSF.

The closure and liability cost estimate is updated quarterly.

Tanzanian legislation requires the posting of a Rehabilitation Bond. The Rehabilitation Bond can be posted in different ways including a Bank Guarantee Bond, Insurance Guarantee Bond, Escrow Account or a Capital Bond. Geita Gold Mine has opted to provide a Bank Guarantee Bond as the financial mechanism. The draft agreement has been submitted to the Ministry of Minerals.

Geita Gold Mine has established self-insurance as a financial assurance mechanism while awaiting feedback from the Ministry of Minerals. The auditor observed the Financial Strengths and Ratios for the cyanide related decommissioning for the 5 years that ended 31 December 2021, dated 23 May 2022.

AngloGold Ashanti Group Internal Audit performed a review of the 2017 to 2021 calculations of the financial ratios and related information using the specific criteria required by the ICMI. The review was performed in accordance with the Institute of Internal Auditors' Standards for the Professional Practice of Internal Audit. Group Internal Audit has compared the data, which AngloGold Ashanti Management specifies as having been derived from the independently audited, year-end financial statements for the financial years 2017 to 2021 with the amounts in such financial statements.

It is stated in the memorandum that AngloGold Ashanti has sufficient financial strength to fulfil the decommissioning obligation as demonstrated by the evaluation methodology described in the document.

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

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 measures as necessary to eliminate, reduce and control them.

Geita Gold Plant has developed procedures describing how cyanide related tasks such as unloading, mixing, plant operations, entry into confined spaces, and equipment decontamination prior to maintenance should be conducted to minimise worker exposure. The operational procedures include the PPE Level required, pre-work inspections, as well as the procedural steps to follow.

Various forums are used to communicate with employees and long-term contractors on safety procedures and to provide them with an opportunity to provide their input in developing and evaluating health and safety procedures. These include:

- Weekly Safety Stoppage Meeting – meeting attendees include all plant personnel and long-term contractors.
- Monthly Departmental Health, Safety and Environmental (HSE) Committee Meeting – meeting attendees include HSE Department members.
- Monthly site-wide HSE Committee Meeting – include all plant personnel and long-term contractors.
- Daily Toolbox Talks – meeting attendees include different production teams.
- Planned Task Observations (PTO) evaluation – the opportunity exists for a section to be completed in the PTO form if any changes should be made in the procedure.
- Job Safety Analysis meeting – During the development of a new procedure, a Job Safety Analysis (JSA) is completed to assess the risk of the particular task for which the procedure is being developed. Employees, that will be involved in the task, forms part of the JSA process. After completion the JSA, the procedure is developed and distributed.

Standard of Practice 6.2:	**Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 6.2**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation has determined that the optimal pH control for process solutions is greater than 9.5 to prevent the evolution of HCN gas. The *Procedure for responding to low pH alarm* stipulates that the pH must always be maintained above 9.5.

The operation has identified areas where workers may be exposed to cyanide through gas survey sampling. The results identified the following areas:

- Tailings hopper
- CIL tank no. 03, 06 and 012
- Carbon recovery screen.

PPE requirements for the identified areas are indicated on safety signs in the areas and are stipulated in operational procedures relating to specific cyanide related activities.

Fixed monitors have been installed in the following areas, with the first alarm set at 4.7 ppm and the second alarm at 10 ppm:

- CIL tank no. 03 and 06
- Tailings hopper
- Intense Leach Reactor
- Mill hopper
- Carbon recovery screen
- Cyanide mixing and storage area
- Gold house

Personal HCN monitors are worn by workers when working in the reagent storage area, on top of the CIL, Acacia Reactor area or when work is done in a confined space. Hydrogen cyanide monitoring equipment is maintained, tested and calibrated as directed by the manufacturer, and records have been retained for the past 3 years. The personal hydrogen cyanide gas monitors and fixed hydrogen cyanide gas monitors are calibrated every 6 months. Calibration is done by Dräger. However, due to the Covid-19, the Dräger technicians were not allowed to travel to the site to conduct the calibration. In order to ensure that the monitors remain functional, the on-site instrument technicians performed calibration checks on the monitors. The fixed and personal monitors were calibrated by Dräger in June 2022.

The *Crisis Management Plan* requires that the area should be immediately evacuated of all personnel in the event of an accidental release of HCN gas, as detected by either personal or fixed monitoring equipment. Only personnel wearing the appropriate PPE with respiratory protection should be allowed in the area of the gas. The gas should be encouraged to escape the area as much as possible to dissipate into the air using fans, if available.

The *Cyanide Gas Detection* procedure states that when gas levels present reach 4.7 ppm, workers can still work in that area for a maximum duration of eight (8) hours continuously but with the knowledge that HCN gas levels are present, and the use of a portable gas detector is mandatory. The shift supervisor is required to continuously monitor the pH to ensure it is maintained above 10.5 and that the HCN level is below 4.7 ppm. When gas levels present reach 10 ppm, workers must evacuate the work area and barricade all entry points to that area. Entry into the area where HCN levels have reached 10 ppm or higher is allowed only if a full-face canister mask with cyanide canister is worn and cyanide gas detector is used to monitor gas levels. It is stated that such entry should only be for the purpose of emergency response or attempted rectification of the cause of the HCN gas formation only.

It was identified, following the initial Completeness Review by the ICMI, that the *Cyanide Gas Detection Procedure* (GPRO-PRO-08270) refers to a limit of 7.5 ppm HCN as the first alarm limit (and 10 ppm as the second alarm limit) and not the 4.7 ppm HCN, as required by the code. The fixed and personal monitors are set to the same mentioned limits, as these are the default limits set and calibrated by the manufacturer. To rectify this discrepancy and to ensure compliance, Geita Gold Mine implemented the necessary actions to adjust the alarm levels to the required limits, update the *Cyanide Gas Detection Procedure* and retrain the plant and TSF employees.

Warning signs, in areas where cyanide is used, advising workers that cyanide is present, have been placed at the reagent storage area, cyanide mixing and storage tanks, CIL area, Acacia Plant area and TSF. The signs advise of the presence of cyanide and warn against eating, drinking, smoking, and the use of open flames. The signs further instruct that the appropriate PPE should be worn.

Carmoisine dye is added to the cyanide solution during cyanide mixing for clear identification. It was confirmed by the auditor during observation at the cyanide dosing point. Showers and low-pressure eyewash stations and dry powder fire extinguishers were observed at the reagent storage area, cyanide mixing and storage tanks, CIL area and the Acacia Plant area. The safety showers and eyewash stations are checked during the daily reagent mixing area inspection, weekly cyanide area inspection and prior to cyanide mixing.

Fire extinguishers are inspected monthly, and the completed inspection is indicated with a hole punched at the applicable month into the card attached to the equipment.

Storage, mixing and process tanks and piping are colour coded in accordance with the plant's colour coding system. It was observed that the content and the flow direction of the reagent strength pipelines and the TSF pipelines are indicated. The process tanks containing cyanide i.e., CIL tank and tails hopper are labelled with the wording CIL Tank and Tails Hopper. The process pipeline, containing cyanide solution, from the tailings hopper to the tailings pipelines are labelled and flow direction is indicated.

The cyanide first aid procedure is available in the cyanide emergency PPE cabins located at strategic locations near the cyanide areas in the processing plant. The Safety Data Sheets (SDS) for cyanide is available at the solid cyanide storage area. Safety signage in the plant is available in English and Swahili. In order to ensure that cyanide training is well understood, the Process Induction & Cyanide Awareness training questionnaire is provided in Swahili.

Geita Gold Mine has implemented an incident investigation procedure. The objective of the procedure is to ensure all injuries, occupational diseases, damage, high potentials and other incidents that result in loss or a near miss are reported and investigated to identify immediate and basic causes. The procedure requires that appropriate corrective actions are to be taken based upon the findings of the investigation. The procedure requires that the following information, pertaining to the incident is collected and described during the incident investigation:

- Description of the incident and investigation summary
- Illustration (photo) of the scene
- Sequence of events.
- Incident potential
- Workplace factors
- Organisational factors
- Control actions
- Summary and conclusions.
- Sign-off

Standard of Practice 6.3:	**Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 6.3**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation has water, oxygen, antidote kits and radios, telephones and man-down alarms readily available for use at the reagent unloading and storage area, cyanide mixing and storage tank area, CIL, Acacia Plant. Radios are available at the TSF. It was confirmed during the site inspection that emergency showers and water is available throughout the processing plant and at the TSF.

A resuscitator and antidote kits are kept at the on-site clinic. The antidote kit available at Geita Gold Mine is the Tripac-Cyano. It was confirmed during an interview with the clinic personnel, that the antidote will only be administered by a trained medical officer.

The operation inspects its first aid equipment regularly to ensure that it is available when needed, and it was confirmed during the site inspection that the cyanide antidotes are stored as directed by the manufacturer and replaced on a schedule to ensure that they will be effective when needed. The first aid equipment, including oxygen bottles, and PPE, inside the cyanide emergency response equipment cabinets, located in the processing plant and at the clinic is inspected monthly.

GEITA GOLD MINE SIGNATURE OF LEAD AUDITOR: **April 2023**

Geita Gold Mine has developed cyanide exposure emergency response procedures to respond to cyanide exposures. These include the *Cyanide First Aid Treatment* procedure, the *Respond to emergency conditions* procedure and the *Notification of cyanide and medical emergencies* procedure.

Geita Gold Mine has a fully equipped onsite clinic to which patients requiring medical treatment, as a result of cyanide exposure, will be transported and treated. Exposed workers will be transported by the onsite paramedic with the onsite ambulance to the clinic for medical care. If subsequently the patient(s) require specialist treatment, they will be transferred to Geita Regional Referral Hospital (GRRH). The Geita clinic personnel have provided cyanide awareness training to the relevant GRRH personnel.

Geita Gold Mine has its own on-site capability to provide first aid or medical assistance to workers exposed to cyanide. The plant first responders will attend to the incident first after which the onsite Emergency Response Team (ERT) will respond and if needed, transport the patient with the mine's ambulance to the onsite clinic. The on-site paramedic and clinic will provide medical assistance if needed. The ERT and clinic personnel are available 24hr a day and are situated less than 150 m from the processing plant entrance. All employees have received basic cyanide first aid training as part of the mandatory process plant induction programme.

It was confirmed during the site assessment that the onsite clinic personnel are fully aware of their responsibility to treat cyanide exposure patients. It was verified during the site assessment that the clinic is equipped and has adequate, qualified staff, and expertise to respond to cyanide exposure incidents. The Acting Chief Medical Officer was interviewed confirming the actions to be undertaken in the event of a cyanide exposure and it was observed that cyanide PPE, oxygen and antidotes are available at the clinic. The clinic is involved in cyanide exposure drills. The clinic personnel receive cyanide awareness training from the processing plant trainer. Refresher training is provided to the clinic personnel by the clinic doctor during toolbox talks.

PRINCIPLE 7 – EMERGENCY RESPONSE

Protect Communities and the Environment through the Development of Emergency Response Strategies and Capabilities

Standard of Practice 7.1: Prepare detailed emergency response plans for potential cyanide releases.

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

Summarise the basis for this Finding/Deficiencies Identified:

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

Geita Gold Mine has developed emergency response plans to address potential accidental release of cyanide. These include the *Open Pit Emergency and Crisis Management Plan,* a mine-wide emergency response plan addressing potential cyanide release and cyanide exposure incidents, and the *Emergency Preparedness and Response Plan,* a plant specific emergency preparedness and response plan covering cyanide and other incidents. The plans provide guidance on cyanide emergency response, spill response, first aid and communication.

Geita Gold Mine has implemented emergency response plans and procedures that list the various credible events scenarios for the site inclusive of cyanide indents. The plans account for the following events:

a) Catastrophic release of hydrogen cyanide from storage, process or regeneration facilities.

b) Transportation accidents occurring on site or in close proximity to the operation.

c) Cyanide releases during unloading and mixing.

d) Cyanide releases during fires and explosions.

e) Pipe, valve and tank ruptures.

f) Overtopping of ponds and impoundments.

g) Power outages and pump failures.

h) Uncontrolled seepage.

i) Failure of cyanide treatment, destruction or recovery systems.

j) Failure of tailings impoundments, heap leach facilities and other cyanide facilities.

Transport related emergencies outside the mine are the responsibility of the cyanide transporter (Freight Forwarders Tanzania (FFT) or Primefuels Tanzania) and will be handled in accordance with their respective transportation emergency response plans. The route risk assessments consider the transportation routes, physical and chemical form of the cyanide, method of transport, condition of the selected roads and the design of the transport vehicles.

The emergency plans and procedures describe the following:

- Open Pit Emergency and Crisis Management Plan – Section 20 addresses TSF related incidents and describes the requirement to inform and evacuate downstream communities in the event of an incident.
- The Evacuation Procedure deals with evacuation of the plant personnel.
- The Cyanide First Aid Treatment covers the cyanide first aid steps for the treatment of cyanide exposure. Chapter 42 of the same procedure states that the antidote kit must accompany the patient to the clinic or hospital where the trained medical professional will administer the antidote.
- The Open Pit Emergency and Crisis Management Plan, Emergency Preparedness and Response Plan and Cyanide Spillage procedure address the control of releases at their source, containment, assessment, mitigation and future prevention of releases.

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

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

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation has involved its workforce and stakeholders, and where applicable affected communities, in the cyanide emergency response planning. During the review of the emergency response plans, the plans are shared with the workforce during various forums such as toolbox talks and Safety, Health and Environment (SHE) meetings, attendees to these meetings include the employees, department heads and safety representatives. The requirements of the emergency response plans are shared with employees during the induction and refresher training as well as emergency drills and any deficiencies identified are shared during debriefing sessions after the drill. This provides an opportunity for the workforce to provide input into emergency planning. The final emergency response plans are shared with all employees on the mine wide share drive and externally with the Mine Inspector, Fire Rescue Regional Office and other stakeholders. External stakeholders and communities do not have a direct involvement in emergency preparedness and response planning; however, the Community Department maintains contact with community members via the existing communication structures to share relevant information with possible affected people with regards to emergency response planning.

The mine engages with five regions between Dar es Salaam and Shinyanga Region and then 25 village between Shinyanga Region and Geita Region along the transportation route. In addition to the communities, the mine engages with the police and hospitals along the route. In addition to the engagements with the communities along the route, Geita Gold Mine engages with the local communities.

During the updating of the mine wide emergency response plan, the external entities with emergency response roles are contacted and their role and the responsible person and contact details are confirmed. These include the local Police and Fire Rescue, based in Geita town.

During the updating of the mine wide emergency response plan, the external entities with emergency response roles are contacted and their role and the responsible person and contact details are confirmed. These include the local Police and Fire Rescue, based in Geita town. Decontaminated and stabilised cyanide exposure patients could be taken to the Geita Regional Hospital, if required (Refer to 6.3). If a new external emergency response person is identified, the person will visit the mine to get an understanding of the operation and their involvement in the emergency response planning process.

Since the external stakeholders and local communities have very limited involvement in the emergency response planning at Geita Gold Mine, consultation and communication are limited with these parties.

Standard of Practice 7.3:	**Designate appropriate personnel and commit necessary equipment and resources for emergency response.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 7.3**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

The *Emergency Preparedness and Response Plan* stipulates that the Process Manager (Emergency Preparedness Plan (EPP) sponsor) provides support at the highest level for the EPP process and ensures that the EPP site coordinator receives the necessary support. The sponsor must appoint the EPP coordinator, as well as establish the EPP committee.

The ERT Superintendent compiles the ERT member list on an annual basis and updates when changes occur. The list is available in the *Open Pit Emergency and Crisis Management Plan*.

The *Open Pit Emergency and Crisis Management Plan* states the Geita Gold Mine is committed to providing a site based mine rescue team with the personnel, training and resources to be able to effective respond to emergency situations. It requires that the rescue team's training is kept up to date.

The *Open Pit Emergency and Crisis Management Plan* provides the call out procedure for call out of the mine's rescue team. The *Cyanide Call Out Procedure* provides the call out procedure and 24 hr contact information for the coordinators and response team required for a cyanide emergency at the plant.

The *Emergency Preparedness and Response Plan* stipulates the duties and responsibilities of the coordinators and team members.

The *Emergency Preparedness and Response Plan* provides an emergency equipment content list, including required PPE. The equipment in the hazmat trailer is listed in the inspection checklist.

The emergency equipment at the ERT station is inspection weekly in accordance with Regulation 50(3) of the Mining Act, as stipulated in the *Open Pit Emergency and Crisis Management Plan*. The cyanide emergency PPE cabins in the plant are inspected monthly. The cyanide PPE at the clinic is inspected monthly.

The *Open Pit Emergency and Crisis Management Plan* describes the roles of external responders such as the local Police and regional hospitals for different scenarios.

The mine has an on-site clinic that are aware of the potential need to treat patients for cyanide exposure and the operation has assured that the medical facility has adequate, qualified staff and equipment and expertise to respond to cyanide exposures. This was confirmed during an interview with hospital personnel. The clinic is involved in full chain mock drills.

The local communities do not have designated responsibilities in the mine emergency response plan and are therefore not included in mock drills.

Geita Gold Mine will notify the local police in the event of a catastrophic incident, should their services be required.

Standard of Practice 7.4:	**Develop procedures for internal and external emergency notification and reporting.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 7.4**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

The *Open Pit Emergency and Crisis Management Plan* provides the procedures and contact details for notifying management, regulatory agencies, external medical facilities and external emergency facilities (regional Police, Fire, other relevant Government Departments that should be notified, depending on the incident) of a cyanide emergency.

Notifying potentially affected communities of a cyanide related incident and any necessary response measure will be done in accordance with the *Geita Community Affairs Procedure*. The procedure states that communication with communities will be via the Sustainability Department and Community Affairs Department.

Contact information for communities close to the mine as well as along the cyanide transportation route is kept up to date by the Community Affairs Department (Refer to 9.1). It is stated in the *Communication with Interested and Affected Parties Procedure* that no employee or manager is permitted to communicate directly with the press or public regarding a cyanide incident or accident. The Process Manager will follow established communication practices involving the Corporate Office and Communication Department.

The *Accident, Incident Investigation Reporting Procedure* provides the steps to be followed to report a cyanide incident to the ICMI. It is stipulated in the procedure that the incident must be reported within 24 hrs of its occurrence and should include the date and nature of the incident, the name and contact information of the company representative. Further salient information, such as the root cause, health, safety, and environmental impacts, and any mitigation or remediation measures should be supplied within seven (7) days of the incident. The email and telephone contact details for the ICMI is provided in the procedure.

No significant cyanide incidents, as defined in the ICMI's *Definitions and Acronyms* document, have occurred during the current recertification audit period.

Standard of Practice 7.5:	**Incorporate remediation measures and monitoring elements into response plans and account for the additional hazards of using cyanide treatment chemicals.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 7.5**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

The cyanide spill procedure describes the steps to follow to recover contained or uncontained spillage of solid and liquid cyanide.

Ferrous sulphate is used to neutralised cyanide spillage. The *Using Ferrous Sulphate Procedure* describes the quantity of ferrous sulphate that should be used to neutralise a specific quantity of cyanide. It is stated in the procedure that the ferrous sulphate is available in a container at the cyanide storage facility.

The *Cyanide Spill Procedure* requires that all contaminated soil must be collected and deposited on the TSF using a front-end loader and a tipper truck. All contaminated equipment must be washed thoroughly after use into a containment area at the tailings storage facility.

The *Hazardous Materials Management Procedure* stipulates that, once the contaminated material has been removed, the Environmental Superintendent will inspect the area and advice on the sampling requirement, if needed. If sampling and further remediation is required, soil sampling will be done in accordance with the SGS laboratory soil sampling instructions and the results after remediation will be compared against the relevant soils standard to ensure that release has been completely cleaned up.

The *Cyanide Spill Procedure* stipulates that all contaminated soil should be collected and deposited on the TSF using a front-end loader and a tipper truck. All contaminated equipment must be washed thoroughly after use into a containment area at the TSF.

The *Open Pit Emergency and Crisis Management Plan* stipulates that alternative drinking water (potable water) will be supplied to communities / downstream users in the event of an incident affected the local surface water.

The *Using Ferrous Sulphate Procedure* prohibits the use of ferrous sulphate, sodium hypochlorite and hydrogen peroxide for the neutralisation of cyanide spilled into clean water, rivers or dams.

The *Open Pit Emergency and Crisis Management Plan* stipulates the requirement to take water samples at strategic points downstream of a spillage incident and to have the samples analysed.

Emergency water sampling will be conducted in accordance with the *Surface and Groundwater Sampling Procedure* (Refer to 4.9).

Standard of Practice 7.6:	**Periodically evaluate response procedures and capabilities and revise them as needed.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 7.6**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

Geita Gold Mine reviews and evaluates the cyanide related elements of the emergency response plans for adequacy on a regular basis. The *Open Pit Emergency and Crisis Management Plan* is updated annually or if a major incident or change occur. The *Emergency Preparedness and Response Plan* is updated every 3 years, or if a major incident or change occur.

The ERT compiles an annual emergency drill plan that details the various drills, including cyanide, to be conducted on a monthly basis. The auditor observed the drill schedule for 2021 and 2022. Cyanide mock drills are conducted on a quarterly basis in the process plant and a full chain with the ERT and clinic is conducted annually. Scenarios for the mock drills includes chemical spill or cyanide drill (release or man down).

Desktop mock drill assessments are conducted for the TSF due to the sensitivity of having communities in close proximity to the TSF which can create unnecessary panic. A desktop assessment and discussion are held on the TSF emergency flow chart to assess the emergency preparedness and response in the event of a TSF failure incident. Topics discussed included a potential incident scenario, notification, control, recovery mainly evacuation for Geita Gold Mine personnel, community, restoration. The details for each part were explained and discussed by the team as to how each intend to perform to the criteria meeting the emergency situation of TSF failure.

There are provisions in place to evaluate and revise the Emergency Response Plan after any cyanide-related emergency requiring its implementation.
Post drill discussion is held after a mock drill and if any changes have to be made to emergency response plans or procedure it will be discussed in this meeting and actioned.

No cyanide related incidents occurred during the current recertification period and therefore no review and revision of the emergency response procedures where required as a result thereof.

PRINCIPLE 8 – TRAINING

Train Workers and Emergency Response Personnel to Manage Cyanide in a Safe and Environmentally Protective Manner

Standard of Practice 8.1: Train workers to understand the hazards associated with cyanide use.

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

Summarise the basis for this Finding/Deficiencies Identified:

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

Newly appointed plant employees and long-term contractors must attend the General HSE Induction (all mine employees), Process Induction and Cyanide Awareness training. The Process Induction and Cyanide Awareness Training have a written assessment with a 75% pass rate required.

Contractors working for less than 2 weeks undergo the HSE Contractor Process Induction and Cyanide Awareness. Similarly, a 75 % pass rate is required. The HSE Contractor Process Induction and process plant induction (short team contractors) includes a module on cyanide awareness.

A short visitors induction, which was also presented to the auditor, includes module cyanide awareness.

Basic Cyanide First Aid training is presented to all employees and long-term contractors (longer than 2 weeks) working in the processing plant and TSF, ERT and clinic. Once completed the employee receives an identification card stipulating the person's name, photo and when the training will expire. At the front of the card, it lists the cyanide exposure symptoms. At the back of the card is a shortened version of the first aid steps to follow for cyanide ingestion, and steps to follow in the event of a man-down incident and how to administer the amyl nitrite. The cards are provided in both English and Swahili.

Once-off chemical handling training (includes cyanide) are presented to all TSF employees, processing plant employees and long-term contractors. The training covers all chemicals, including cyanide, used in the plant and that an employee could be exposed to at the plant and the TSF.

Cyanide hazard recognition refresher training is conducted periodically. The Process Induction and Cyanide Awareness training is refreshed annually, after annual leave ore when the employee has been off-site for more than 28 days. Basic Cyanide First Aid training is refreshed every 6 months. The chemical handling training is provided once off and will be refreshed if a major change occurs or if onsite Planned Task Observation (PTO) indicates that an employee requires refresher training.

In accordance with Tanzania Labour Law, training records are retained for the duration of employment and then at least 5 years thereafter. Medical and safety personnel records must be retained for 30 years.

Standard of Practice 8.2: **Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.**

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 8.2**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation trains workers to perform their normal production tasks, including unloading, mixing, production and maintenance, with minimum risk to worker health and safety in a manner that prevents unplanned cyanide releases. The Process Operations Training Matrix stipulates the modules that should be completed before working in a certain section of the plant, e.g., Trash & Thickening, Carbon Elution & Reagents, Electrowinning and Gold Recovery, Control Room, TSF. The matrix details the person's name, designation, crew number and whether the training was completed and passes or failed.

Operational training is providing to employees according to the operational section that they are working in. The training is provided on the operational procedures and requirements for the specific areas prior to working in the area.

The training elements necessary for each job involving cyanide management are identified in training materials. The training material for each operational section consists of a training presentation, learners guide / operators manual, and written assessment undertaken after the training. The learners guid / operators manual contains the training elements for each job and includes where relevant cyanide management. The auditor observed operator manual for carbon elution and regeneration, reagent mixing, milling and classification. A cyanide competency field assessment (only employees working the cyanide mixing area) is conducted by a trainer and panel interview (trainer, Human Resources (HR), senior supervisor, Superintendent/Process Plant Manager) every 2 years for employees working in the cyanide mixing area. This is additional training to ensure competence working in this area.

The training is conducted by two appropriately qualified trainers providing task training related to cyanide management activities.

Workers are trained prior to working with cyanide. After completing the Process and Cyanide Induction training, new employees do short process plant training to familiarise them with the process and associated hazards in the plant. Once completed, the employees work under supervision of an experienced employee (under supervision). Once the employee has completed all the modules required for the section of the plant, as per the Process Operation Revised Training Matrix, and was found competent, then the employee can work on his/her own.

Operational training modules are presented once off and will be refreshed if a major change occurs or if onsite PTO indicates that an employee requires refresher training.

PTOs are conducted by the various sectional supervisors and are performed against the requirements of a specific operational procedure. The supervisor must conduct, as a minimum, four PTOs per month.

PTOs are used to assess employees for the following reasons:

- New worker
- Poor performer / risk taker / worker with known problem
- After an incident (pollution)
- After incident (injury/damage)
- Good performer / routine observation

The PTO contains the following:

- Details of job observed
- Date
- Department
- Time
- Name of person observed
- Reason for observation
- Evaluation
- Observer's general comments
- Recommendations
- Observer name, signature

Training records are retained for the duration of employment and then at least 5 years thereafter. Geita Gold Mine retains training records in hard copy as well as in the online CARTrain Learning Management System (LMS online system). It was observed that records include the names of the employee and the trainer, the date of training and topics covered, if the employee demonstrated an understanding of the training.

Standard of Practice 8.3:	**Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.**	
	☒ **in full compliance with**	
The operation is	☐ in substantial compliance with	**Standard of Practice 8.3**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

Basic Cyanide First Aid training is presented to all employees and long-term contractors (longer than 2 weeks) working in the processing plant and TSF, ERT and clinic. The training includes the first aid steps to follow in the event where an incident requires the decontamination of a cyanide exposure victim.

The Process Induction and Cyanide Awareness Training is presented to all cyanide unloading, mixing, production and maintenance personnel and contains procedures for responding to cyanide releases.

Once completed the employee receives an identification card stipulating the person's name, photo and when the training will expire. At the front of the card, it lists the cyanide exposure symptoms. At the back of the card is a shortened version of the first aid steps to follow for cyanide ingestion, and steps to follow in the event of a man-down incident and how to administer the amyl nitrite. The cards are provided in both English and Swahili.

The plant First Responders, ERT and clinic personnel are trained in the procedures included in the emergency response plans regarding cyanide, including the use of necessary response equipment. The requirements are entrenched via the mock drills. As part of the Basic Cyanide First Aid training, a section is presented on how to respond to an exposure or cyanide spillage incident. The auditor observed the matrix containing the names and status on the completion of the Basic Cyanide Training for the ERT and the clinic personnel. Additional chemical handling and cyanide training is attended by the ERT team.

No community members, local responders or off-site medical providers will respond to emergencies related to cyanide. For all cyanide related emergencies, the mine emergency personnel will provide the response team as the local external responders are not trained in responding to cyanide emergencies. The mine has a hospital on site which will treat any incidents of cyanide exposure. The plant First Responders and members of the ERT are trained in the procedures included in the emergency response plans regarding cyanide, including the safe use of the necessary emergency response equipment.

The Basic Cyanide First Aid training, covering cyanide exposures, is refreshed every 6 months.

The Process Induction and Cyanide Awareness training, covering cyanide releases, is refreshed annually, after annual leave ore when the employee has been off-site for more than 28 days. Training records are retained for the duration of employment and then at least 5 years thereafter. Medical and Safety personnel records must be retained for 30 years. It was observed that records include the names of the employee and the trainer, the date of training and topics covered, if the employee demonstrated an understanding of the training.

PRINCIPLE 9 – DIALOGUE

Engage in Public Consultation and Disclosure

Standard of Practice 9.1: **Promote dialogue with stakeholders regarding cyanide management and responsibly address identified concerns.**

☒ **in full compliance with**

The operation is

☐ in substantial compliance with **Standard of Practice 9.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with Standard of Practice 9.1; to promote dialogue with stakeholders regarding cyanide management and responsibly address identified concerns.

The mine engages with approximately 35 communities situated around the mine. The mine also engages with 5 regions between Dar es Salaam to Shinyanga Region and then 25 village between Shinyanga Region and Geita Region on the cyanide transportation route. In addition to the communities, the mine engages with the Police and Hospitals along the transportation route. Attendance register, minutes and photographs are kept of the individual meetings. In addition, the engagements with the communities along the route, Geita Gold Mine engages with the local communities.

A cyanide awareness video is presented during the engagement sessions. The video provides information, in Swahili, on the Geita Gold Mine mining operations and the use and dangers of cyanide.

Since the pandemic, the mine stopped the engagement along the transport route but continued engaging with the local communities but with a smaller group. These groups included the community leaders. An information pamphlet is provided to the community leaders and local government offices to disseminate in the local villages. No face-to-face consultation was conducted in 2020, 2021 and 2022 due to the pandemic.

The mine broadcast safety related messages on the local radio station in Geita town. Included in the safety messages are cyanide related safety messages. The mine has been broadcasting these safety messages since 2018 to date.

The Community Department develops an annual programme stipulating the communities that will be visited and the planned dates. This is communicated to the communities before the meetings. The mine resumed community engagement meetings with the local communities in May 2022.

After the presentation, the community members are given the opportunity to ask questions and raise concerns. Copies of the presentation and a pamphlet are provided to the local communities for distribution.

The *Grievance and Complaint Procedure* has been implemented at Geita Gold Mine providing the communities with opportunities to raise issues and concerns at any time apart from the organised meetings. Grievance boxes have been placed in the respective communities for members to deposit handwritten complaints / suggestions. The Geita Gold Mine Community Department will collect the complaints and these are further handled in accordance with the *Complaint and Grievance Procedure*. The procedure stipulates that grievances should be investigated, actions should be implemented and feedback should be provided to the complainant.

Standard of Practice 9.2:	**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 9.2**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with Standard of Practice 9.2; to make appropriate operational and environmental information regarding cyanide available to stakeholders.

Geita Gold Mine has developed a one-page flyer on how their activities are conducted how cyanide is managed.

The flyer, *Chemicals transported via road from the port of Dar es Salaam to Geita Gold Mine,* contains the following information:

- Examples of the chemicals transported – cyanide, hydrogen peroxide, hydrochloric acid.
- Health and environmental effects of these chemicals.
- Pathways of poisoning (inhalation, ingestion, absorption by skin).
- Emergency contact details in case of a transportation emergency (community to stay away at least 800m from vehicles).
- Identification signage for chemical transportation vehicles.
- Emergency PPE used by the emergency team.

A cyanide awareness video is presented during the engagement sessions. The video provides information, in Swahili, on the Geita Gold Mine mining operations, how cyanide is produced, how cyanide is used in the mine, cyanide facilities at the mine, dangers of cyanide, safe transportation of cyanide, storage of cyanide at the plant, labelling of cyanide areas/facilities, emergency PPE and first aid equipment used during an cyanide incident, pathways of cyanide poisoning, workplace exposure limits, symptoms of cyanide poisoning, summary of how is transportation convoy identified, that the communities should stay away from the convoy, that any questions should be directed to the convoy leader.

The operation will make information publicly available on confirmed cyanide releases or exposure incidents.

It was confirmed to the auditor during interviews with various operational and ERT personnel that Geita Gold Mine has not experienced any cyanide releases or exposures as relating to the following, in the period since the last recertification audit:

- Cyanide exposure resulting in hospitalization or fatality
- Cyanide releases off the mine site requiring response or remediation
- Cyanide releases on or off the mine site resulting in significant adverse effects to health or the environment
- Cyanide releases on or off the mine site requiring reporting under applicable regulations
- Releases that cause applicable limits for cyanide to be exceeded

A Mining Resident Officer (MRO) that represents the Tanzania Ministry of Minerals is based at Geita Gold Mine permanently and will be informed of cyanide related incidents, as listed above. The MRO will then communicate

with the relevant government officials and communities regarding the incident. The MRO will be provided with all the details of the incident that will then be communicated to the Ministry of Minerals and other relevant stakeholders.

Signature Page

WSP Group Africa (Pty) Ltd

Marié Schlechter
ICMI Lead and Mining Technical Auditor

https://wsponlinezaf-my.sharepoint.com/personal/marie_schlechter_wsp_com/documents/icmi cyanide auditing/anglogold ashanti africa region/aga geita/recertification audit/deliverables/comments and 2nd subm/21473913_geita gold mine_icmirecertaudit_summary_final_01march2023.docx

APPENDIX A

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