Asanko Gold Mine International Cyanide Management Code Recertification Audit

Summary Audit Report

Asanko Gold Ghana Limited

Prepared by:

SLR Consulting (Ghana) Limited

9 Watsons Avenue, Mayfair Gardens, East Airport,
Accra, Greater Accra

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Project Manager	Ed Perry
Project Manager Email	eperry@slrconsulting.com
Author	Ed Perry
Reviewer	ICMI
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Basis of Report

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Table of Contents

Acronym / abbreviation	Description
CIL	Carbon-in-Leach
CN	Cyanide
Asanko	Asanko Gold Mine
CCC	Community Consultative Committee
ERT	Emergency Response Team
HCN	Hydrogen Cyanide
HDPE	High Density Polyethylene
HOD	Head of Department
HR	Human Resources
HSE	Health, Safety and Environment
ICMC	International Cyanide Management Code
ICMI	International Cyanide Management Institute
IFC	International Finance Corporation
ILR	Intensive Leach Reactor
LOM	Life of Mine
OEM	Original Equipment Manufacturer
PMS	Planned Maintenance System
PPE	Personal Protective Equipment
ppm	Parts Per Million
PTO	Planned Task Observation
ROM	Run-of-Mine
SAG	Semi-Autogenous Grinding
SCADA	Supervisory Control and Data Acquisition
SDS	Safety Data Sheets
SLR	SLR Consulting (Ghana) (Pty) Ltd
SOP	Standard Operating Procedure
The Code	The International Cyanide Management Code for the Manufacture, Transport, And Use of Cyanide in the Production of Gold and Silver
The Plant	Asanko Gold Plant
The Protocol	The Mining Operations Verification Protocol
TSF	Tailings Storage Facility
UNEP	United Nations Environmental Program
WAD	Weak Acid Dissociable

1.0 Summary Audit Report for Gold Mining Operations

Name of Cyanide User Facility:	Asanko Gold Mine
Name of Cyanide User Facility Owner:	Asanko Gold Ghana Limited
Name of Cyanide User Facility Operator:	Asanko Gold Ghana Limited
Name of Responsible Manager:	Yvonne Sunu
Address:	Asanko Ghana Limited, #4 Sir Arku Korsah Road Airport Residential Area, Accra.
Country:	Ghana
Telephone:	+233 20 176 7658
E-mail:	Yvonne.sunu@asanko.com

2.0 Location and description of operation

Location detail and description of operation:

The Asanko Gold Mine (Asanko) is located 40 km north-west of Obuasi and 50 km south-west of the Ashanti region capital Kumasi, in Ghana. Following the conclusion of a 50/50 joint venture transaction with a subsidiary of Goldfields on 31 July 2018, Asanko Gold holds a 45% economic interest in Asanko Gold Ghana Limited (AGGL) and gold exploration tenements on both the Asankrangwa and Sefwi Gold Belts in the Republic of Ghana, West Africa. The ownership structure of the joint venture is 45% Asanko Gold, 45% Goldfields with the remaining 10% held by the Government of Ghana as a free-carried equity interest.

The AGM concessions, the Obotan and Esaase project areas, are located in the Amansie West District of the Ashanti Region of Ghana. The AGM is a multi-deposit complex with two main deposits, Nkran and Esaase, eight satellite deposits and a carbon-in-leach (CIL) processing plant with a current operating capacity of five million four hundred thousand tonnes per annum (Mtpa). Operations successfully commenced in January 2016 following an 18-month construction period.

The AGM includes the following:

- Conventional open pit gold mining from the current Nkran, Esaase, Akwasiso and future Abore, Asuadai and Adubiaso reserves.

- Mining will be completed in just over eight years ramping up over the first three years to a peak of 60 Mtpa of ore and waste in 2022 to 2024.
- A Measured and Indicated Mineral Resource of 2.3 Mt at 0.76 g/t gold (57 kilo-ounces or koz) and 61.7 Mt at 1.74 g/t gold (3,447 koz), respectively
- The Measured and Indicated Resources are inclusive of Proven and Probable Mineral Reserve totalling 2.3 Mt at 0.76 g/t gold (57 koz) and 51.1 Mt at 1.41 g/t gold (2,320 koz), respectively.
- Additional Inferred Mineral Resources of 7.0 Mt at 1.59 g/t gold (357 koz).
- The metallurgical process plant, currently in full operation, is a combination gravity/CIL circuit operating at a throughput of circa 5.4 Mtpa dry ore feed. The tailings are processed through a cyanide destruction facility before pumped to the Tailings Storage Facility (TSF).
- Including existing Run of Mine (ROM) stockpiles of 2.3 Mt, the processing plant will be in operation for 10 years.
- The process plant will process an average of 5.4 Mtpa of ore over the life of the mine.
- Gold production is an average of 245,000 oz per annum for the first seven years. Thereafter gold production tapers off as lower-grade run of mine stockpiles are fed into the plant to augment ore from depleted mining operations.

The Asanko processing plant is based on a typical single stage crushing, Semi -Autogenous Grinding (SAG) and Semi -Autogenous Ball Mill Crushing Circuit (SABC) followed by a CIL Plant. The flow sheet includes a single stage jaw crusher that can either feed onto a live stockpile directly onto an open circuit SAG, complete with pebble crusher, and ball milling unit in closed circuit with classification cyclones. Process solutions i.e. a solution with a concentration of 0.5 mg/L WAD cyanide or greater is not used within the milling circuit. An Intense Leach Reactor (ILR) is utilised to treat a portion of the cyclone underflow stream to recover coarse free gold from the recirculating load.

AGGL purchased solid cyanide from Orica Australia Pty Ltd until the beginning of 2023 at which time the solid cyanide was purchased directly from TaeKwang Industrial Co., Ltd with Hoe Dong Logistics being the certified transporter in Korea and Vehrad Transport and Haulage Limited being the certified transporter in Ghana.

The cyanide is delivered as solid cyanide in one tonne boxes which are stored in the cyanide storage area before being taken to the mixing area where they are dissolved to create the cyanide process solution for the Plant. The red dye is also added at this time. The packaging for the solid cyanide is taken by the cyanide transporter to its licenced incinerator in Tema, Accra.

The milled product will gravitate to a pre-leach thickener, via a trash removal screen. Thickener underflow will be pumped directly to a pre-oxidation stage followed by a seven stage CIL Plant. Leached gold will adsorb onto the activated carbon, which flows counter-current to the gold bearing slurry. Loaded carbon from the CIL and ILR is directed to the

elution circuit after which the gold is recovered from the pregnant solution through electrowinning. Electrowon gold is recovered using water jet sprays after which it is dried and smelted.

The Asanko Gold Mine has one downstream TSF serving the entire mine operation, designed to store a total of 95 million metric tonnes (MMT) over the life-of-mine, with the ability to expand to 120 MMT. The TSF was expanded to the southwest with the implementation of Raise 6. This created two separate cells within the TSF. Cell 5 and 6 with a causeway between the two. Raise 7 has included both cells and will cause the two cells to be combined into one as tailings are deposited. The decant from the TSF pool is currently drawn from a fixed decant point and a floating barge. The increase in the level of the tailings will cause the pool to be centred around the fixed decant. TSF Raise 7 was completed in March 2024.

Decant from the TSF is piped to the Process Water Pond at the Plant. When the water on the TSF is significantly greater than required evaporators are used to reduce the amount of water on the TSF. There is no discharge to surface water. The level of WAD cyanide in the return water from the TSF is lower than 0.5 mg/l and therefore the Process Water Pond is not classed as a cyanide facility.

Approximately 2,600 people are employed at the mine. 99% of the total workforce are Ghanaians, of which around 53% are from local communities.

SUMMARY AUDIT REPORT

Auditors Findings

Asanko Gold Mine is:	☐ **in full compliance with**	**The International Cyanide Management Code**
	☒ in substantial compliance with	
	☐ not in compliance with	

Audit Company:	SLR Consulting (Ghana) Ltd
Audit Team Leader:	Ed Perry, Lead Auditor
Email:	eperry@slrconsulting.com
Mine Technical Auditor	Dawie Viljoen, Afritech (ICMI pre-certified Mine Technical Expert).

Asanko Gold Mine
Name of Facility

Signature of Mine Technical Expert

9 June 2025
Date

COMPLIANCE STATEMENT

Asanko Gold Mine, Ghana has not experienced any cyanide incidents during the previous three year audit cycle.

This operation was found in substantial compliance with the Cyanide Code based on the audit findings discussed in this report under Standard of Practice 4.4.

NAME OF OTHER AUDITORS

Dawie Viljoen

DATES OF AUDIT

The Re-certification Audit was undertaken from 25 November to 28 November 2024.

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

Asanko Gold Mine
Name of Facility

Signature of Lead Auditor

June 2025
Date

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.

The “International Cyanide Management Code for The Manufacture, Transport, And Use of Cyanide In The Production Of Gold and Silver” (the Code) was developed by a multi-stakeholder Steering Committee under the guidance of the United Nations Environmental Program (UNEP) and the then, International Council on Metals and the Environment.

The Code is a voluntary industry programme for gold and silver mining companies, and companies involved with the production and transport of cyanide to gold and silver mining companies; it focuses exclusively on the safe management of cyanide. Companies that adopt the Code must have their operations, which manufacture cyanide, transport cyanide or `use cyanide to recover gold and silver, audited by an independent third party to determine the status of the Code’s implementation. Those operations that meet the Code’s requirements can be certified and are able to use a unique trademark symbol, which identifies the company as a certified operation. Audit results are made public to inform stakeholders of the status of cyanide management practices at the certified operation.

The objective of the Code is to improve the management of cyanide used in gold and silver mining and assist in the protection of human health and the reduction of environmental impacts (refer to www.cyanidecode.org). The Code is managed by the International Cyanide Management Institute (ICMI).

Asanko Gold Mine
Name of Facility

Signature of Lead Auditor

June 2025
Date

Principle 1 – Production and Purchase

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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 1.1**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

Following the previous recertification audit AGGL stopped using Australian Gold Reagents (AGR) for the supply of solid cyanide and obtained the cyanide from Orica Australia Pty Ltd.

Orica was initially certified on 28 November 2006 with the current certification dated 31 October 2023.

At the beginning of 2023 AGGL started purchasing solid cyanide directly from TaeKwang Industrial Co., Ltd, Republic of Korea (TaeKwang).

The auditors observed a contract between Taekwang and AGGL dated 18 January 2023.

TaeKwang was initially certified on 14 April 2008, with the current certification dated 21 August 2023.

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.

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard of Practice 2.1 requiring that cyanide is safely managed through the entire transportation ad 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 operation has chain of custody records identifying all transporters and supply chains responsible for transporting cyanide

The records include documentation from the producer (Orica, Yarwun Australia), via the transporter (Stellar Logistics, Ghana) to the operation (Asanko Gold Mine) prior to 2023.

Since the beginning of 2023 TaeKwang has been the producer and supplier of solid cyanide to the mine using Hoe Dong Logistics as the certified transporter in Korea, and Vehrad Transport and Haulage Limited (Vehrad) as the certified transporter in Ghana.

All identified transporters are individually certified in compliance under the Code or included in a certified supply chain.

The Orica Global Marine Supply Chain includes transport form the manufacturing site at Yarwun, Australia to various ports including Tema by ocean transport of cyanide. The Global Marine Supply chain was last recertified on 2 December 2024. The associated transporter in Ghana is Stella Logistics who was last recertified on 4 December 2024.

The solid cyanide has been supplied by Taekwang since the beginning of 2023. Hae Dong Logistics transports the solid cyanide from the production facility at Ulsan Petrochemical #3 Plant to Busan Port, Korea.

Hae Dong Logistics was initially certified on 19 December 2016, with the current certification dated 16 March 2023.

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Date

The solid cyanide is transported in Ghana from the Port of Tema to the gold mine by Vehrad. Vehrad was initially certified on 14 July 2008, with the current certification dated 5 September 2024.

The Samsung C&T Corporation Africa Supply Chain which was last recertified on 9 August 2024 covers the transportation of solid cyanide from the Taekwang production facility to Busan Port, Korea and subsequently to the Port of Tema, Ghana

.

Principle 3 – Handling and Storage

Protect Workers and the Environment During Handling and Storage.

Standard of practice 3.1: Design and construct unloading, storage and mixing facilities consistent with sound, accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 3.1**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard of Practice 3.1; design and construct unloading, and storage facilities consistent with sound accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.

Facilities for unloading, storing and mixing cyanide have been designed and constructed by DRA (global engineering company) in accordance with applicable jurisdictional rules, sound and accepted engineering practices, and industry standards for these facilities.

It was observed that the unloading, storage areas for solid and liquid cyanide is located away from people and surface waters. The facilities are located inside the security-controlled area of the Plant. The solid cyanide storage area, mixing and liquid cyanide storage areas are inside locked fences inside the Plant.

The Plant only uses solid cyanide briquettes, which are delivered in sea containers, destuffed by forklift, and packed in the cyanide storage shed before being made up to a cyanide process solution in the mixing facility and therefore unloading of liquid cyanide is not applicable.

There are systems in place to prevent the overfilling of cyanide storage tanks, and the systems are tested and maintained on a routine basis as part of the planned maintenance system (PMS).

Both the cyanide mixing tank and cyanide dosing tank are fitted with a high level alarm at 90%. The mixing tank is also fitted with an automatic shut off valve at 90%. This was confirmed with the Control Room Operator and observed on the computerised control system. The Control Room Operator controls the process of filling the tanks during the prefilling, top-up after mixing and transfer of the mixed cyanide from the mixing tank to the cyanide dosing tank from the Control Room. The Control Room can observe the tank levels

and can stop the process if the automatic shut-off valve malfunctions. The Control Room Operator confirmed that the mixed cyanide will only be transferred from the mixing tank to the dosing tank if the level in the dosing tank is below 20% i.e. there is sufficient room to transfer the whole of the mixing tank. This is detailed in the *Cyanide Mixing Safe Operating Procedure (SOP), dated 09 January 2024.*

It was observed during the site assessment that the cyanide mixing tank and cyanide dosing tank are located on concrete plinths within a concrete bunded area that can prevent seepage to the subsurface.

Secondary containments for the cyanide mixing tank and cyanide dosing tank are constructed of concrete that provides a competent barrier to leakage. The bunds observed during the site assessment are constructed of concrete and were found to be in good condition.

The following was confirmed during the site inspection that cyanide is stored:

a) Under a roof, off the ground, or with other measures to minimise the potential for contact of solid cyanide with water. The solid cyanide boxes are stored in a warehouse and on wooden pallets i.e. under a roof and off the ground to minimise the potential for contact of solid cyanide with water.

b) With adequate ventilation to prevent the build-up of Hydrogen Cyanide (HCN) gas. the warehouse is ventilated with fans in the roof that are switched on prior to anyone entering the warehouse. It was observed that the cyanide mixing tank and cyanide dosing tank are fitted with ventilation pipes on the side of the tanks. Both of the tanks are located in an open air environment.

c) In a secure area where public access is prohibited, such as within the fenced boundary of the Plant. The solid cyanide warehouse is located within the Plant that is a high security area, with access control and security patrols. The storage warehouse is locked with keys that are only accessible to certain individuals who have to sign a key register.

d) The solid cyanide is stored separately from incompatible materials, such as acids, strong oxidisers and explosives and apart from foods, animal feeds, and tobacco products. A compatibility chart was observed in the storage warehouse showing the materials that are incompatible with cyanide. The liquid cyanide is stored in the cyanide mixing tank and cyanide dosing tank in a dedicated bunded area.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 3.2**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

With respect to empty cyanide containers, procedures are in place and implemented to:

- Prevent empty cyanide containers from being used for any purpose other than holding cyanide. The empty solid cyanide containers are kept inside the cyanide storage area. Three empty boxes are dismantled and placed in the fourth box and kept in the locked cyanide storage area. The procedure requires that the area be cleaned after all empty boxes have been removed. The empty storage containers (comprising wooden boxes, bulk bag inners and plastic bags liners) are placed back in the sea container in which they arrived and transported by Vehrad to their Ghanaian Environmental Protection Agency (EPA) licenced incinerators in Tema where the containers are incinerated.

- Rinse empty cyanide drums, plastic bags and liners with water three times and add the rinse water to the cyanidation process or otherwise disposed of in an environmentally sound manner. The woven polypropylene bags, and outer plastic bags are emptied and shaken to remove any loose solid cyanide (but not washed) before being placed back in the empty wooden box. The empty boxes are then placed back in the cyanide storage shed prior to being placed back in the sea containers. This is acknowledged by Vehrad as standard procedure and the necessary health and safety precautions are undertaken when unloading the sea containers by Vehrad at their incinerator.

- Burn or otherwise dispose of empty wooden crates in an environmentally sound manner. The empty storage containers (comprising wooden boxes, bulk bag inners and plastic bags liners) are placed back in the sea container in which they arrived, securely closed and transported by Vehrad to their Ghanaian EPA licenced incinerators in Tema where the containers are incinerated.

- Clean any cyanide residue from the outside of cyanide containers that are returned to the vendor and securely close them for shipment. The empty storage containers (comprising wooden boxes, bulk bag inners and plastic bags liners) are placed back in the sea container in which they arrived, securely closed and transported by Vehrad to their respective licenced incinerators in Tema where the containers are incinerated. The Auditors reviewed the following procedures with respect to cyanide containers, *Breaking of Cyanide Boxes Standard Operating Procedure, dated 01 March 2024*.

The operation has developed and implemented procedures to prevent exposures and releases during cyanide unloading and mixing activities. The procedures listed below were reviewed by the auditors. In addition, a mixing event was observed by the auditors, checking implementation of the procedures by the operator performing the mixing task.

- Operation and maintenance of all hoses, valves and couplings for unloading liquid cyanide and mixing solid or liquid cyanide. *Cyanide Mixing Safe Operating Procedure (SOP), dated 19 May 2024* describes the handling of all hoses, valves and couplings during cyanide mixing. The maintenance of all hoses, valves and couplings are included with the Planned Maintenance System.

- Handling cyanide containers without rupturing or puncturing. *Cyanide Offloading SOP, dated 01 March 2024* describes how bags are lifted from the box to the mixing tank by crane which minimises the risk of rupturing or puncturing by forklift. No liquid sodium cyanide containers are handled.

- Limiting the height of stacking of cyanide containers. *Cyanide Offloading SOP, dated 01 March 2024*, limits the stacking of boxes to two high in the storage area.

- Timely cleanup of any spills of cyanide during mixing and transfer of liquid cyanide from tanker trucks and isotainers. The following procedures detail the timely clean-up of spills. *Dry Sodium Cyanide Clean-up and Decontamination, dated 01 March 2024* describes the clean-up of spilled cyanide during mixing event and the duties of the buddy. *Cyanide Mixing Safe Operating Procedure, dated 19 May 2024* describes the clean-up after mixing, to ensure no solid cyanide is left behind. It also states that in the event of a spillage it should be quickly hosed into the bunded area while ensuring the sump pump is operational.

- Providing for safe unloading of liquid cyanide and manual mixing of solid cyanide by requiring appropriate personal protective equipment and having a second individual observe from a safe area, or observe remotely by video. *Cyanide Mixing Safe Operating Procedure, dated 19 May 2024* describes the personal protective equipment (PPE) required in Section 5.2 and the pre-checks required in Section 5.4 including that a 3rd person is used as a buddy.

- Addition of colorant dye to solid cyanide prior to or at the point of mixing into solution and/or provisions for the addition of colorant dye to high-strength liquid

cyanide prior to delivery at the mining operation. *Cyanide Mixing Safe Operating Procedure, dated 19 May 2024* describes the addition of the colourant dye during the 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 preventative maintenance procedures.

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation does not have a heap leach, cyanide regeneration or disposal systems. The operation has written management and operating plans or procedures been developed for cyanide facilities including unloading, mixing and storage facilities, process plants, tailings impoundments, and cyanide treatment including the following:

Tailings Facility - *Stage 7 Tailings Storage Facility Operating Manual, REC (geotechnical engineering consultants), dated 8 March 2024.*

The Plant has 23 cyanide procedures including the following:

- *Cyanide Offloading SOP, dated 01 March 2024*
- *Cyanide First Aid SOP, dated 01 October 2024,*
- *Cyanide Mixing Safe Operating Procedure, dated 19 May 2024, and*
- *Managing Weak Acid Dissociable (WAD) Cyanide above 50 ppm SOP, dated 10 July 2024.* This states where WAD cyanide in the tailings is equal or exceeds 50 mg/l it should be detoxified with hydrogen peroxide through CIL Tank 07.

The operation's plans or procedures identify and account for the assumptions and parameters on which the facility design was based and any applicable regulatory requirements as necessary to prevent or control cyanide releases and exposures consistent with applicable requirements, which includes the following.

Asanko Gold Mine
Name of Facility

Signature of Lead Auditor

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Date

- *Cyanide Mixing Safe Operating Procedure, dated 19 May* 2024 states that pH in the cyanide mixing tank should be above 11.0.
- *Managing Weak Acid Dissociable (WAD) Cyanide above 50 ppm SOP, dated 10 July 2024* states where WAD cyanide in the tailings is equal or exceeds 50 mg/l it should be detoxified with hydrogen peroxide through CIL Tank 07.
- *Stage 7 Tailings Storage Facility Operating Manual, dated 8 March 2024* states that the latest raise is designed for a 1:1000 year annual exceedance precipitation (AEP) 72 hour storm of 347 mm. The Ghanaian Minerals Commission (Mincom) requirement is for a freeboard of 1.4 m. The REC recommendation is for a freeboard of 2.99 m.

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, inspections and preventive maintenance activities.

Water Management

The TSF Operating Manual details the actions to be taken in the event of an upset in the water balance in Section 6.0 Supernatant Pond/ Water Management including variance from Design Parameters, and Potential Problems. If the bathymetric survey, that is undertaken on a monthly basis, shows there is excess water on the TSF the decision is taken by the Process Manager to turn on the evaporators to reduce the volume of the TSF pond.

The auditors observed the *Bathymetric Survey and Stage Storage Curve Analysis of the TSF, April 2024, Keli Engineering Consultants*. This showed the pond to be 15% of the total available volume with the freeboard calculated to be 5.91 m.

In addition, the auditors observed the probabilistic water balance created by Keli Engineering Consultants that includes; all of the water balance parameters, together with the operations and assumptions of the water balance. This is used to inform the mine when there is likely to be excess water or when additional water will need to be abstracted from boreholes on the mine.

Tailings Storage Facility Inspections

Inspections of tailings pipeline and Tailings Storage Facility (TSF) are undertaken on a shiftly basis including deposition and wildlife mortality.

The Asanko Tailings Storage Facility Daily Inspection Sheet includes inspection of the following; pipeline leaks, pipeline corridor, flanges, embankment, deposition, decant water return, drainage pumps, seepage collection drains, geomembrane liner, wildlife mortality, run-on diversion ditches, wildlife mortality and general housekeeping.

Quarterly inspections are undertaken by an independent engineering company, Glocal Engineering Limited. The purpose of the audits are to provide an independent professional report on the status of the TSF for the attention of the Ghanaian EPA. It involved a review of features of the existing TSF as well as current operating, maintenance, and development

regimes and responsibilities in fulfilment of environmental permit conditions stipulated by the EPA. The reports are signed by Richard Akoto, Project Director Glocal (M.Eng., Dipl.-Ing). The fourth quarter is an annual report, which includes the quarterly inspection and a summary for the year.

Plant Inspections

The Plant is inspected on a daily, monthly and quarterly basis including the following:

- *Daily HCN Handling Checklist:*
- *CIL- Daily Operators Checklist:*
- *Daily Inspection Checklist for Process Water Pond, Pumps and Valves:*
- *Monthly CIL Checklist:*
- *Monthly Cyanide Mixing Facility Checklist:*
- *Quarterly Inter-departmental Safety and Environmental Audit.*

Planned Maintenance Activities

The Plant has a preventative maintenance program called Delta that is a piece of software used solely for this process. All work orders issued on Delta are being kept in the system to track the maintenance history of each piece of equipment. The asset list was observed by the auditors and confirmed to include; valves, pumps, tanks, alarms, monitors, and gensets for the Plant. Ad hoc work orders are also raised if monitoring or an inspection identifies a problem.

The operation implements the *Management of Change Procedure, dated 1 November 2023* to review proposed changes to production processes, operating practices, or cyanide facilities to determine if they may increase the potential for cyanide releases and worker exposures and incorporate any measures necessary to protect worker health and safety and the environment.

The procedure covers any change to equipment, software, procedures or process that may introduce hazard's to health, safety, or affect operational efficiency of the Mine that has not been covered by a full risk assessment. The procedure describes the responsibilities and accountabilities of the General manager - Operation, Heads of Department including the Environment Department, Manager Safety, Health and Security, Unit Manager/Sectional Supervisors, Employees.

This describes the procedure to follow including the Responsibility / Accountability Matrix for Change Management i.e., Level (1-4) Impact, Action, and associated responsibility. Describes the procedure to follow for Documenting the Change. Describes the process to follow in the event of an Emergency Change Management.

The operation has developed a number of procedures for contingencies and non-standard operating conditions, including an upset in the water balance, problems identified by

monitoring or inspection, and either planned or emergency shutdowns, including a temporary closure or cessation of operations. The following procedures were reviewed during the audit.

- An upset in the operational water balance that presents a risk of exceeding the design containment capacity. The *TSF Operating Manual* details the actions to be taken in the event of an upset in the water balance in Section 6.0 Supernatant Pond/ Water Management including variance from Design Parameters, and Potential Problems. If the bathymetric survey undertaken on a monthly basis shows there is excess water on the TSF the decision is taken by the Process Manager to turn on the evaporators to reduce the volume of the TSF pond.
- Problems identified by facility monitoring or inspection. The PMS raises a work order and records the corrective actions and corrective maintenance that is being undertaken when inspections or monitoring identifies a problem.
- Temporary closure or cessation of operations due to situations such as work stoppages, lack of ore or other essential materials, economics, civil unrest, or legal or regulatory actions. The *Tailings Discharge Pumps Shutdown SOP, dated 01 March 2024* includes the details of the operations to be undertaken when shutting down the Plant, on a short or long term basis, including cutting the feed from the Thickeners and evacuating the Tailings Hopper. This includes flushing the Tailings Line followed by shutting off all of the pumps to the Tailings Line. This shows that the temporary closure /shutdown on either a short-term or long-term basis is considered and planned for as part of normal operation of the facility. This sufficiently addresses how cyanide would be safely managed during long-term shutdowns or cessation of operations.

The operation inspects the following at unloading, storage, mixing and process areas, including tanks, secondary containments, pipelines, pumps, valves, and ponds.

- Tanks holding cyanide solutions for structural integrity and signs of corrosion and leakage. Inspection of tanks are included as part of the PMS. Thickness testing is undertaken annually by a third party. The following reports were observed by the auditors and included thickness testing of the CIL tanks, and Cyanide Solution Mixing and Holding Tanks. *Non-destructive testing (NDT) Reports for SAG Mill, Gearbox, Girth Gear Teeth and Tanks, Inspectors and Engineers, dated 15 April 2022 and 31 May 2024*. The reports state that the tanks are in a satisfactory condition. An inspection of the various tanks is undertaken by Asanko on an annual basis with the following report being observed by the auditors CIL Tank #1 NDT and Asset Integrity Report, dated 2 October 2024. This report includes thickness testing of the base plate and a visual assessment of the structural integrity and signs of corrosion and leakage inside and outside the tank. All corrective actions are raised as work orders within the PMS.
- Secondary containments provide for tanks and pipelines for physical integrity, the presence of fluids, and available capacity. The Cyanide and Reagents Area and CIL Shiftly Inspections include checks on secondary containments provided for tanks and pipelines for physical integrity, the presence of fluids, and available capacity. Any water in the bund area flows to a sump which is equipped with an automatic pump for

the water to be pumped back into the process. The Daily Cyanide Mixing Safety Checklist includes a check that water has not collected in the cyanide mixing bund area. The TSF Daily Checklist includes an inspection of the TSF pipeline and high density polyethylene (HDPE) trench, in which it is located, for any leaks.

- Leak detection and collection systems at ponds, as required in the design documents. It is only the TSF that has a leak detection and collection system. This is inspected on a daily basis as part of the TSF Daily Checklist. If any liquid is collected this is pumped back onto the TSF. The Process Water Pond and Pollution Control Dam are not classed as cyanide facilities.
- Pipelines, pumps and valves for deterioration and leakage. The Cyanide and Reagents Area and CIL Shiftly Inspections include inspections of the pipelines, pumps and valves for leakage or deterioration. In addition, the PMS includes monthly electrical and mechanical inspections of pumps and valves.
- 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 surface water diversions around the TSF are inspected as part of the Daily TSF Inspections. The freeboard is inspected on a monthly basis as part of a bathymetric survey. The Process Water Pond and Pollution Control Dam are not classified as cyanide facilities.

Inspections of the Plant are undertaken on a shiftly, weekly (as part of PMS) and monthly (health and safety) basis. Inspections of the TSF are undertaken on a daily, monthly, and quarterly basis. For preventive maintenance, inspection activities are being undertaken as required by the specific piece of equipment, with the period being anything between daily to yearly. It is concluded that the inspection frequency is adequate to assure that the facility operates within design parameters. The inspection reports and checklists identify the specific items to be observed and include the date of the inspection, the name of the inspector, and any observed deficiencies.

A preventive maintenance program is implemented, and activities documented to ensure that equipment and devices function as necessary for safe cyanide management. The Plant has a preventative maintenance program called Delta that is a piece of software used solely for this process. In addition, there is annual thickness testing of the CIL Tanks, the Cyanide Mixing Tank, and the Cyanide Dosing Tank.

The operation has the necessary emergency power resources to operate pumps and other equipment to prevent unintentional releases and exposures in the event its primary source of power is interrupted. When the power is interrupted the back-up generator (a 2.5 megawatt diesel generator) kicks in to keep the critical parts of the Plant operational as required. The power can be directed to where it is needed. The Plant will maintain a steady state with no releases. The cyanide pipeline has a non-return valve and will remain in the pipeline in the event of a power failure. The generator is inspected daily, weekly and undergoes a service every 250 hours that are all recorded as part of the PMS. In addition, the generator is inspected prior to every Plant shut down.

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

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

Summarise the basis for the findings/deficiencies identified.

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

The operation implements a program to evaluate cyanide use in the Plant and adjust the addition rate to minimize its use including the following:

Source characterisation – The procedures were observed for conducting diagnostic leach tests for each of the following.

- The Plant treats ore from one pit only, and diagnostic leach tests (4 June 2024) are conducted to determine the gold deportment. The gold deportment assists in selecting appropriate process flowsheet.
- Extended Leach tests indicated the requirement for additional CIL contact time resulting in the planning for two additional CIL tanks.
- Weekly composite sample bottle roll tests are undertaken in accordance with the *Free Cyanide Addition Guide*. These are conducted to direct free cyanide levels in CIL.

Optimisation – The procedure describes the process to conduct bottle roll tests, submit liquor samples and the residue cakes for residual gold analysis, and to titrate the residual cyanide at each concentration.

- Weekly composite feed sample bottle roll tests are conducted to determine optimal cyanide addition rates. The 2024 results covered cyanide addition rates from 0.2 to 0.5 kg/t NaCN, with 0.3 kg/t indicated as the optimal addition rate.

Weekly meetings are held with the Operations Team to evaluate test results and set sodium cyanide addition rate parameters. The current setpoint is 300 ppm free cyanide in the Header Tank with a recovery of 90%. Weekly meetings are held with the Mining Department to discuss ore blending.

Cyanide addition control.

- The desired free cyanide concentration setpoint is determined during the weekly meeting using results of the various optimisation tests described above.
- The cyanide addition is controlled to the free cyanide setpoint in the Header Tank using the TAC 1000 on-line analyses and adjusting the variable speed liquid cyanide dosing pumps

Standard of practice 4.3: Implement a comprehensive water management program to protect against unintentional releases.

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

Summarise the basis for the findings/deficiencies identified.

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

The operation has developed a comprehensive, probabilistic water balance.

The water balance was produced by Keli Engineering Consultancy using GoldSim software The GoldSim software was developed to create probabilistic models. The model accounts for the present and future water supply available to the processing plant, and functions as a decision making tool for TSF management.

The model uses the daily precipitation records together with 30 years of historic rainfall records to model the uncertainty and variability in the prediction of precipitation patterns, including the ability to consider the frequency and distribution of precipitation events along with extremes and seasonal variations.

The water balance considers the following in a reasonable manner and as appropriate for the facilities and the environment.

- The rates at which solutions are applied to leach pads and the rates at which tailings are deposited into tailings storage facilities. The rates at which the tailings are deposited into the TSF is accounted for in the model. The probabilistic model is supported by monthly bathymetric surveys which provides a spatial representation of depositions.
- A design storm duration and storm return interval that provides a sufficient degree of probability that overtopping of the pond or impoundment can be prevented during the operational life of the facility. The model currently allows the user to manually define the precipitation timeseries. It has capacity to incorporate specific storm events as defined by the user of the model. The standard storm event incorporated into the model is a 1:1000 year annual exceedance precipitation 72 hour storm of 347 mm. The TSF has the capacity to retain the water in the case of such a storm event.
- The quality of existing precipitation and evaporation data in representing actual site conditions. Data on precipitation and evaporation was obtained from the Ghana Meteorological Agency as well as data from the Environmental Department of the mine. Climatic data considered in the model include those obtained from stations located to the west, east and south of the project area within approximately 50 km

radius of the site. A good and representative historical record of the project area was obtained. The site has 4 weather stations, which provide on-going data for the model.

- The amount of precipitation entering a pond or impoundment resulting from surface run-on from the up gradient watershed, including adjustments as necessary to account for differences in elevation and for infiltration of the runoff into the ground. A drainage basin was generated for the model when it was created. The model is able to estimate water entering the TSF from surface run-on from the upgradient watershed. The model accounts for runoff and infiltration, using an appropriate coefficient.
- Freezing and thawing do not apply to the site due to it being located in a tropical region.
- Solution losses in addition to evaporation, such as the capacity of decant, drainage and recycling systems, allowable seepage to the subsurface, and allowable discharges to surface water. Mechanisms for solution losses are programmed into the model. Linear seepage is modelled for the TSF. The TSF is designed as a zero discharge facility, hence it is anticipated that no water from it shall be discharged into the natural environment. The capacity of the decant is modelled for the TSF. Underground, underdrainage and seepages pumping systems recycle any seepage back into the TSF and this is modelled. Evaporation rates are based on the data from the evaporation pans included in the weather stations. These rates are incorporated into the model. There are no allowable discharges to surface water.
- The effects of potential power outages or pump and other equipment failures on the draindown from a leach pad or the emergency removal of water from a facility. The effect of a potential power outage can be modelled by turning the pumps off in the model. If there is a power outage water will collect in the TSF. The TSF is currently designed to be able to accommodate a 1:1000 year annual exceedance precipitation 72 hour storm of 347 mm. However, if the storage capacity of the TSF is exceeded any overtopping through the spillway will flow to the Sediment Control Dams. If power cannot be returned within the necessary time period a separate diesel generator can be used to power the decant pumps.
- Where solution is discharged to surface waters, the capacity and on-line availability of necessary cyanide treatment, destruction. or regeneration systems. There is no discharge to surface waters the TSF, Process Water Pond, and Pollution Control Dam are all designed to be zero discharge facilities.
- Other aspects of facility design that can affect the water balance, such as the assumed phreatic surface in a tailings storage facility. The model includes characteristics of the tailings such as pore water, which gives rise to the phreatic surface. The seepage for the TSF is modelled using the linear permeability of the HDPE liner and the head above the liner.

Ponds and impoundments are designed and operated with adequate freeboard above the maximum design storage capacity determined to be necessary from water balance calculations. *Stage 7 Tailings Storage Facility Operating Manual, dated 8 March 2024* states

that the latest raise is designed for a 1:1000 year annual exceedance precipitation (AEP) 72 hour storm of 347 mm. The Ghanaian Minerals Commission (Mincom) requirement is for a freeboard of 1.4 m. The REC recommendation is for a freeboard of 2.99 m. The *Bathymetric Survey and Stage Storage Curve Analysis of the TSF, April 2024, Keli Engineering Consultants* showed the pond to be 15% of the total available volume with the freeboard calculated to be 5.91 m.

The Process Water Pond and the Pollution Control Dam are not cyanide facilities as the concentration of WAD cyanide is them is less than 0.5 mg/l.

The operating procedures incorporate inspection and monitoring activities as necessary to implement the water balance and prevent overtopping of ponds and impoundments and unplanned discharge of cyanide solutions to the environment including.

The TSF Operating Manual details the actions to be taken in the event of an upset in the water balance in Section 6.0 Supernatant Pond/ Water Management including variance from Design Parameters, and Potential Problems. If the bathymetric survey, that is undertaken on a monthly basis, shows there is excess water on the TSF the decision is taken by the Process Manager to turn on the evaporators to reduce the volume of the TSF pond. Inspections of tailings pipeline and TSF are undertaken on a shiftly basis including deposition and wildlife mortality.

Quarterly inspections are undertaken by an independent engineering company, Glocal Engineering Limited. The purpose of the audits are to provide an independent professional report on the status of the TSF for the attention of the Ghanaian EPA. It involves a review of features of the existing TSF as well as current operating, maintenance, and development regimes and responsibilities in fulfilment of environmental permit conditions stipulated by the EPA, including the adequacy of the freeboard.

The operation measures precipitation, comparing the results to design assumptions and revising operating practices as necessary. Data on precipitation and evaporation was obtained from the Ghana Meteorological Agency as well as data from the Environmental Department of the mine. Climatic data considered in the model include those obtained from stations located to the west, east and south of the project area within approximately 50 km radius of the site. A good and representative historical record of the project area over 30 year was obtained. The site has installed 4 weather stations, which provide on-going data for the water balance. The water balance is updated on a quarterly basis using this data.

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

The operation is

☐ **in full compliance with**

☒ in substantial compliance with **Standard of Practice 4.4**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation has does not have any open water where it is necessary to implemented measures to restrict access by wildlife and livestock as the WAD cyanide does not exceeds 50 mg/l.

The operation can demonstrate that the cyanide concentration in open water in the TSF and solution ponds does not exceed 50 mg/l WAD cyanide.

The TSF pool is monitored on a weekly basis. All observed results were below 50 mg/l. The results from week 1 July 2023 to the date of the audit were all below 0.005 mg/l. Water is decanted from the TSF pool to the Process Water Dam, which therefore has WAD cyanide concentrations low enough for the Process Water Pond not to be considered a cyanide facility.

The monitoring results observed for the Pollution Control Dam showed the results to also be below 0.5 mg/l.

The spigot at the TSF was monitored on a weekly basis from January 2022 to November 2024. There were 23 exceedances during this period with 11 exceeding 60 mg/l and 3 exceeding 80 mg/l. Due to the time taken for the samples to be analysed at an external laboratory it has not been possible for the site to establish the causes for the exceedances.

The site is organising for the spigot to be monitored on a daily basis with the analysis being undertaken in-house thus enabling the causes of any exceedances to be established and rectified in a timely manner.

It should be noted that the operation has made a good-faith effort to comply with the Cyanide Code with the deficiency being readily corrected by the actions detailed in the Corrective Action Plan. This deficiency does not present an immediate or substantial risk to employees, community health, safety or the environment.

Maintaining a WAD cyanide concentration of 50 mg/l or less in open water is effective in preventing significant wildlife mortalities.

Asanko Gold Mine
Name of Facility

Signature of Lead Auditor

June 2025
Date

The CIL- Daily Operators Checklist and Shiftly TSF Inspections include the requirement to record any wildlife mortalities. No wildlife mortalities have been observed.

There is no heap leach on site.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.5**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard 4.5 to implement measure to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

There are no known indirect discharges to surface water, which was confirmed visually during the site assessment and from the surface water analysis.

The operation monitors for cyanide in surface water upgradient and downgradient of the site.

Monthly monitoring is conducted in the Offin River upstream and downstream of the operations for free cyanide, WAD cyanide, and total cyanide. The results were observed showed that all of the parameters were below the detection limit of 0.005 mg/l.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.6**

☐ not in compliance with

Summarise the basis for the findings/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 ground water beneath and immediately down gradient of the operation. Specific measures at the TSF include the following:

- The TSF is HDPE lined;
- There is a cut-off-trench beneath the upstream toe of the embankments;
- There is an underdrain collection system that reports to an underdrain sump where any liquid is pumped back to the TSF;
- The groundwater collection system reports to a groundwater sump where any liquid is pumped back to the TSF; and
- The internal embankment drains report to a toe drain trench and subsequently to a sump where any liquid is pumped back to the TSF.

The tanks within the Plant are all contained within a concrete bund to prevent any seepage to groundwater.

The operation monitors for cyanide in groundwater downgradient of the site and can demonstrate that concentrations of WAD cyanide in groundwater at compliance points below or downgradient of the facility are at or below levels that are protective of identified beneficial uses of the groundwater.

The beneficial uses of groundwater downgradient of the facility are likely to include the provision of drinking water and water for livestock as this is obtained via wells abstracting water from the local groundwater.

The Ghanaian EPA standard for groundwater is 0.6 mg/l total cyanide.

Monitoring of groundwater downgradient of the site is undertaken on a monthly basis for free cyanide, WAD cyanide, and total cyanide. The results observed were all below the detection limit of 0.005 mg/l.

The mine is an open pit and mill tailings are not used as underground backfill.

The operation is not engaged in remedial action as all groundwater monitoring shows concentrations to be below the detection limit of 0.005 mg/l for total, free and WAD cyanide.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.7**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

Spill prevention or containment measures are provided for all unloading, storage, mixing and process solution tanks. It was confirmed during the site inspection that all tanks (cyanide mixing, storage, CIL, detox, tailings, ILR, and elution) are located inside concrete bunds.

The storage / mixing areas, CIL tanks and ILR are all installed on concrete foundations and located inside bunds which are of adequate capacity. The auditors verified during the site inspections that the secondary containments (floors and bunds) are in adequate conditions for the purpose of holding any solution.

Secondary containments 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. There are no cyanide process tanks without secondary containment.

The following information regarding secondary containments volumes was verified during the audit. The bunds were observed to be adequately sized.

- The largest tank in the inter-linked bund areas in the Plant is the CIL tank (2100 m3). This bund also contains the detox and tailings tank. The CIL bund has a capacity of 2310 m3.
- Cyanide Dosing Tank capacity is 60 m3, Cyanide Dosing and Mixing bund has a capacity of 100 m3.
- The ILR Drum capacity is 8.36 m3, the ILR bund has a capacity of 9.21 m3.
- In addition, any leaks or spills outside the bunded areas or overflows from the bunds will flow to the Pollution Control Dam via the concrete lined perimeter drain providing additional capacity.

Procedures are in place and being implemented to prevent any discharge of a cyanide solution or cyanide-contaminated water that is collected in a secondary containment area to the environment. For the CIL mixing, storage and leaching facilities, all bunded areas are equipped with sumps and automatic sump pumps for solution collection and preventing

discharging into the environment. Any spills will be directed to the sumps and subsequently pumped to the CIL.

The water in the Pollution Control Dam is pumped back to the process. Monitoring shows that the concentration of WAD cyanide in the Pollution Control Dam is below 0.5 mg/l and therefore this is not a cyanide facility. The TSF Operating Manual states that any leakage collected in the underliner drain will be pumped back to the TSF.

Spill prevention or containment measures are provided for all process solution pipelines to collect leaks and prevent releases to the environment. The Tailings Pipeline between the Plant and the TSF runs inside a HDPE lined trench. Within the Plant the area between the Tailings Tank and the Tailings Pipeline is located within the CIL bund. Daily inspections are conducted of the TSF tailings line as well as the return water line.

The cyanide reagent pipelines within the Plant, which are not within a bunded area are constructed of HDPE in launders that drain back to the Cyanide Mixing bund sump. This is then pumped back into the CIL header tank. Other process pipelines containing cyanide solutions run above bunded areas, which are equipped with sump pumps to return any solution to the process. The Plant pipelines are inspected as per the schedules on the preventative maintenance system together with shiftly inspections.

During the site inspection, the auditors confirmed that there were no areas where the cyanide pipelines could present a risk to surface water and therefore no special protection needs are required.

Cyanide tanks and pipelines are constructed of materials compatible with cyanide and high pH conditions. All tanks inside the Plant have been constructed from mild steel. Cyanide reagent and solution pipelines within the Plant, are constructed from HDPE. The tailings and return water pipelines are all made 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.

The operation is

☒ in full compliance with

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

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

Quality assurance and quality control programs were implemented during construction and substantial modification of all cyanide facilities.

There have been no substantial modifications to the Plant since the last recertification audit. TSF Raise 6 and 7 have been undertaken since the last recertification audit.

The Gold Plant was designed and constructed by DRA Projects in 2014/2015 and commissioned in December 2015. The QA/QC documentation for the cyanide mixing facility has been retained by the facility.

The QA/QC documentation for the Stage 6 Raise of the TSF was not available.

TSF Raise 7 was completed in March 2024. The QA/QC documentation was observed by the auditors and consisted of the following:

- Field Density Tests, March 2023- February 2024.
- Non-destructive Air Pressure Tests, March 2023- February 2024.
- Geomembrane Destructive Test Record, March 2023- February 2024.
- Panel Placement Log, March 2023- February 2024.

The quality control and quality assurance programs as detailed above address the suitability of materials and adequacy of soil compaction for earthworks such as earthen liners and the installation of synthetic membrane liners for the TSF raise.

Quality control and quality assurance records have not been retained for cyanide facilities other than those detailed above. An appropriately qualified person has reviewed cyanide facility construction and provided documentation that the facility has been built as part of the QA/QC documentation and the inspections detailed below.

An appropriately qualified person has inspected those elements of the facility involving cyanide where there is no available quality control and quality assurance documentation,

and issued a report concluding that its continued operation within established parameters will protect against cyanide exposures and releases as detailed below.

TSF Inspections

Quarterly inspections are undertaken by an independent engineering company, Glocal Engineering Limited. The purpose of the audits are to provide an independent professional report on the status of the TSF for the attention of the Ghanaian EPA. It involved a review of features of the existing TSF as well as current operating, maintenance, and development regimes and responsibilities in fulfilment of environmental permit conditions stipulated by the EPA. The reports are signed by Richard Akoto, Project Director Glocal (M.Eng., Dipl.-Ing). The fourth quarter is an annual report, which includes the quarterly inspection and a summary for the year.

Plant Inspections

Inspection of tanks are included as part of the PMS with thickness testing being undertaken annually. The following reports were observed by the auditors and included thickness testing of the CIL tanks, and Cyanide Solution Mixing and Holding Tanks.

- *Non-destructive testing (NDT) Reports for SAG Mill, Gearbox, Girth Gear Teeth and Tanks, Inspectors and Engineers, dated 15 April 2022 and 31 May 2024.*

The reports state that the tanks are in a satisfactory condition.

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

The operation is

☒ in full compliance with

☐ in substantial compliance with **Standard of Practice 4.9**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation has developed written standard procedures for monitoring activities. The following procedures were observed.

Procedure for Surface Water Sampling, 10 November 2023. This document presents the standard procedure relating to the sampling of surface waters, and discharge streams from water systems, in order to obtain representative samples in an accurate and safe manner.

Procedure for Groundwater Sampling, 11 November 2023. This document shows the step-by-step procedure for water quality sampling from monitoring boreholes.

The *Asanko Tailings Storage Facility Daily Inspection Sheet* and the *CIL- Daily Operators Checklist* details the checks for wildlife mortality.

The sampling and analytical procedures have been developed by an appropriately qualified person. The procedures for surface and groundwater monitoring were developed by the Environmental and Sustainability Manager who has an MSc. In Environmental Science and over 10 year's experience.

The sampling procedures specify how and where samples should be taken, sample preservation techniques, chain of custody procedures, shipping instructions, cyanide species to be analysed and quality assurance and quality control requirements for cyanide analyses.

The sampling points are indicated on the *Environmental Monitoring Map.* Chain of custody and analysis requirements are recorded on an Excel spreadsheet document that will accompany the sample to the lab.

The chain of custody documentation includes the sample id, matrix, date of sample, time of sample, type of container, total number of bottles per sample location, analysis required (including cyanide species) and notes on preservation chemicals used.

Sampling conditions are documented in a fieldwork notebook, including weather, livestock/wildlife activity, anthropogenic influences, etc.

The following parameters are recorded on the logbook during a sampling event:

- Sample number;
- Sample date;
- Sample time;
- pH, conductivity, dissolved oxygen, temperature, total dissolved solids, and oxidation reduction potential;
- Observations: Including appearance and colour of water, presence of fish and wildlife, weather conditions, human activities.

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

WAD cyanide monitoring is conducted at the following locations and frequencies:

- At the decant pump of the TSF – weekly;
- Groundwater and surface water monitoring are undertaken on a monthly basis; and
- Wildlife monitoring is undertaken daily by the Plant and TSF personnel.

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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 5.1**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation has developed written procedures to effectively decommission cyanide facilities at the cessation of operations as detailed in the following.

- *2024 Updated Mine Closure Plan for Process Plant and TSF, October 2024*.

This Plan adequately addresses decommissioning, which is the aspect of closure that addresses the cyanide remaining on site upon cessation of production activities and prepares the site for its closure and post closure period including the management of reagent strength cyanide and process solutions remaining in storage and production facilities.

The *2024 Updated Mine Closure Plan for Process Plant and TSF* includes an implementation schedule in Section 4.4 for decommissioning activities. This includes the activities to be undertaken split between Active Operations and Final Closure for each year from 2024 to 2044.

Section 5.1.1 in the Plan states that it is updated at least every 5 years.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 5.2**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation has developed an estimate of the cost to fully fund third party implementation of the cyanide-related decommissioning measures identified in its site decommissioning or closure plan.

Section 1.6 of the *2024 Updated Mine Closure Plan for Process Plant and TSF* provides an estimate of the financial assurance for the TSF and Process Plant. The costs were developed by the African Environmental Research Consultants.

The operation reviews and updates the cost estimate at least every five years and when revisions to the plan are made that affect cyanide related decommissioning activities.

The operation has established a financial mechanism approved by the applicable jurisdiction (Ghanaian EPA) to fully cover the estimated costs for cyanide-related decommissioning activities as identified in its decommissioning and closure strategy.

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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 6.1**

☐ not in compliance with

Summarise the basis for the findings/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.

The operation 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 auditors observed the following.

- *Cyanide Offloading SOP, dated 01 March 2024;*
- *Cyanide First Aid SOP, dated 01 October 2024;*
- *Cyanide Mixing SOP, dated 19 May 2024;*
- *Working on Cyanide Pumps, Pipes and Valves SOP, dated 1 March 2024; and*
- *Confined Space Procedure, dated 13 October 2022.*

All of the procedures detail the PPE required and the pre-work checks that need to be undertaken.

The operation solicits and actively considers worker input in developing and evaluating health and safety procedures. Safety Committee Meetings review the procedures and come up with any concerns regarding a procedure. Any changes to a procedure is communicated to the workforce where there is an opportunity to provide input. Following this the procedure is signed off by the employees stating that they have attended the session.

Standard of practice 6.2: Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 6.2**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation has determined the appropriate pH for limiting the evolution of HCN gas during mixing and production activities. *Cyanide Mixing Safe Operating Procedure, dated 19 May 2024* states that pH in the cyanide mixing tank should be above 11.0. There is a pH monitor in the Header Tank where cyanide doing is undertaken. There is a minimum pH for this tank of 10.5 as shown on the Scada system in the Control Room with an interlock to prevent cyanide addition if the pH falls below this level.

The operation has identified areas and activities where workers may be exposed to hydrogen cyanide gas or cyanide dust in excess of 10 parts per million (ppm) (11 mg/m3) on an instantaneous basis and 4.7 parts per million (ppm) 5 mg/m3) continuously over an 8-hour period, as cyanide and require use of appropriate personal protective equipment in these areas or when performing these activities.

The following locations have been identified and have fixed HCN monitors. In addition, personal monitors must be worn in these areas when undertaking work: CIL Tanks (x3); Elution; Cyanide Mixing and Dosing Areas (x2); Tails Hopper Area; Detox Tank; Carbon Safety Screen Area; ILR (x2); Cyanide Storage Area; and Assay Laboratory (x2).

The facility uses fixed and personal monitoring devices, to confirm that workers are not exposed to hydrogen cyanide gas or cyanide dust exceeding 10 parts per million (ppm) on an instantaneous basis and 4.7 parts per million (ppm) continuously over an 8-hour period, as cyanide.

The first alarm is at 4.7 ppm and the second alarm is set at 10 ppm for both the fixed and personal monitors. When the first alarm sounds all workers not wearing the appropriate PPE must evacuate the area. When the second alarm sounds all workers must evacuate the area.

Hydrogen cyanide monitoring equipment is maintained, tested and calibrated as directed by the manufacturer, and records have been retained for at least three years. There are currently 14 fixed HCN monitors and 8 personal monitors in the Plant.

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Warning signs have been placed at the; cyanide offloading and storage area; cyanide mixing and dosing tank area; ILR; and the dosing point at the top of the CIL, which are the locations where reagent strength cyanide is used. The signs advise workers that cyanide is present, that smoking, open flames, eating and drinking are not allowed, and what personal protective equipment must be worn, which includes a personal cyanide monitor.

There are warning signs at the TSF stating no swimming and that it is not potable water. Eating and drinking are only allowed in designated locations away from the TSF. Operators are trained that tailings deposited at the TSF contains cyanide.

High strength cyanide solution is dyed for clear identification. It was confirmed during the observation of a cyanide mixing operation that red dye is added during the mixing operation and therefore dyes the high strength cyanide solution in the mixing tank.

It was observed during the site visit that safety showers, low pressure eye wash stations and dry chemical powder fire extinguishers are located at strategic locations throughout the operations where cyanide is used. The safety showers and low pressure eye wash stations are inspected on a daily basis as part of the *CIL- Daily Operators Checklist* and on a monthly basis as part of the PMS. The fire extinguishers are inspected on a monthly basis and services annually.

Unloading, storage, mixing and process tanks and piping containing cyanide are identified to alert workers of their contents, and the direction of cyanide flow in designated pipes. This includes TSF and cyanide solution pipelines.

It was observed that the Cyanide Dosing Tank, Mixing Tank, ILR, and Electrowinning Tanks are colour coded as per colour coding chart (red with purple band). Reagent strength distribution pipes and lower strength process solution pipes are indicated with a small purple band and flow direction is indicated with an arrow. This was observed on all applicable pipes. The tailings pipes are identified with a label stating “pipe contains cyanide”. There are also arrows indicating the direction of flow.

Safety Data Sheets, first aid procedures and other informational materials on cyanide safety is in English is the official language on the Mine and available in areas where cyanide is managed.

It was confirmed that Safety Data Sheets (SDS) and first aid procedures are available in English in the areas where cyanide is managed. The SDS for Carmoisine the red colourant added to the solid cyanide is available on site, it is classed as non-hazardous.

Procedures are in place and being implemented to investigate and evaluate cyanide exposure incidents to determine if the operation’s programs and procedures to protect worker health and safety, and to respond to cyanide exposures, are adequate or in need of being revised.

Incident Reporting and Investigation Procedure – dated, 01 November 2023. The procedure describes the process to follow when investigating all types of incidents. All incidents must be reported to the Emergency Control Centre and Emergency Contacts according to the AGGL Incident Notification Flowchart.

Level 3-5 incidents will be investigated using the Incident, Cause, Analysis, Method (ICAM) tool.

Level 1-2 incidents will be investigated using the minor incident investigation tool.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 6.3**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation has water, oxygen, a resuscitator, antidote kits and a radio, telephone, alarm system or other means of communications or emergency notification readily available for use at cyanide unloading, storage and mixing locations and elsewhere in the Plant.

The operation has water and oxygen in the Control Room and at the top of the CIL. Oxygen, a resuscitator, Self Contained Breathing Apparatus (SCBA), antidote kit (Cyanokit), chemical suits, boots, full face masks with canisters are contained in the Emergency Cyanide Cabin located near the cyanide mixing/ storage facility. There are 3 antidote kits (Cyanokit) that are located at the mine clinic (1), in the Plant (1) and, Assay Laboratory (1) which is located adjacent to the Plant compound. The ambulance is present at each mixing event as part of the Emergency Response Team and contains oxygen, resuscitator, and a full set of PPE (suit, boots, full face mask with canister).

The Mine uses radios and cell phones for communication. The safety showers in the Plant including at the unloading, storage, and mixing locations are connected to the alarm system

The operation inspects its first aid equipment regularly to ensure that it is available when needed, and that materials such as cyanide antidotes at each location observed are stored and/or tested as directed by their manufacturer and replaced on a schedule to ensure that they will be effective when needed. The operation undertakes monthly inspection of the Emergency Cyanide Cabin as part of the Cyanide Emergency Equipment Checklist. The oxygen on the top of the CIL and in the Control Room are also inspected on a monthly basis as part of the Checklist for Oxygen Cylinder and Components.

The operation has developed specific written emergency response plans and procedures to respond to all types of cyanide exposures. This includes *Cyanide First Aid SOP, dated 01 October 2024* that identifies the steps to be undertaken in the event of someone being exposed to cyanide. The First Aid Procedure is available online and in hard copy in the Emergency Cyanide Cabin and at the Mine Clinic. An abbreviated version is located as part of the signage at areas identified as cyanide hotspots e.g., offloading, mixing, storage, etc.

The operation has its own on-site capability to provide first aid and medical assistance to workers exposed to cyanide. All Plant workers are trained as First Responders including

cyanide first aid. The first responders will administer oxygen and put the worker under the shower for decontamination while waiting for the mine ambulance.

The operation has an emergency response team, ambulance and paramedic that will assist in the event of an emergency. There is a clinic located next to the Plant with a doctor present where the patient will be taken.

The operation has developed procedures to transport workers exposed to cyanide to locally available qualified medical facilities. The operations have an on-site clinic that is located next to the Plant compound. The ambulance with the paramedic is part of the Emergency Response Team that attends every mixing event. In the event of an emergency the security control room is notified who then informs the clinic who dispatch the ambulance and paramedic to the scene. The ambulance is allowed free access to the Plant. The paramedic will stabilise a patient before being transported to the clinic. If further treatment is required, the patient will be airlifted to Kumasi for further treatment.

The operation has informed the relevant medical facilities of the potential need to treat patients for cyanide exposure, and the operation is assured that the medical facility has adequate, qualified staff, equipment and expertise to respond to cyanide exposures. The operation has an on-site clinic that is staffed with a 2 doctors and 3 paramedics, 5 nurses and 2 ambulance drivers. The ambulance with a paramedic is present during mixing events. The paramedic will stabilise a patient before being transferred to the Clinic for treatment by the doctor. There are 3 antidote kits on site. One in the Plant, 1 in the Clinic, and 1 in the Assay Laboratory. Patients who need additional treatment are transported to the Komfo Anokye Teaching Hospital in Kumasi. This is part of the formalised arrangements for patients requiring tertiary care in this Region of Ghana. Prior to the transportation the hospital is informed of the condition of the patient etc. The hospital is the location of the National Accident and Emergency Centre and is a centre of excellence for sub-Saharan Africa.

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Principle 7 – Emergency Response

Protect Communities and the Environment Through the Development of Emergency Response Strategies and Capabilities.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.1**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

The operation is in full compliance with Standard of Practice 7.1; prepare detailed emergency response plans for potential cyanide releases. The operation developed Emergency Response Plans to address potential accidental releases of cyanide and cyanide exposure incidents. These include the following.

The operation developed an Emergency Response Plan to address potential accidental releases of cyanide and cyanide exposure incidents. These include the following.

- *Emergency Response Procedure for Cyanide Related Emergencies, dated 18 September 2024 (Plant specific plan);*
- *Emergency Response Plan – Obotan Mine, dated 18 September 2024 (mine wide plan); and*
- *Emergency Response Plan for the TSF.*

Emergency Response Procedure for Cyanide Related Emergencies considers the following potential failure scenarios appropriate for its site-specific environmental and operating circumstances.

a) Catastrophic release of hydrogen cyanide from the storage or process facilities – Section 5.3.
b) Transportation incidents – Section 5.4. In addition, the operation has a copy of the Vehrad Emergency Response Plan to ensure co-ordination of any emergency response.
c) Cyanide releases during unloading and mixing - Section 5.5.
d) Cyanide release during fires and explosions – Section 5.6.
e) Pipe valve, and tank ruptures – Section 5.7.

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f) Overtopping of ponds, tailings impoundments. – Section 5.8.

g) Power outages and pump failures – Section 5.18.

h) Uncontrolled seepage - Emergency Response Plan for the TSF, Section 5.5.

i) Failure of cyanide treatment, destruction or recovery systems – Section 5.10.

j) Failure of tailings impoundments, heap leach facilities and other cyanide facilities - Section 5.11.

Planning for response to transportation-related emergencies has considered the transportation route, physical and chemical form of the cyanide, method of transport, the condition of the road or railway, and the design of the transport vehicle.

Transport related emergencies outside the mine are the responsibility of Vehrad as the transport company. The transportation companies have emergency response plans and route risk assessments as part of the ICMC certification. These have considered the transportation route, physical and chemical form of the cyanide, method of transport (e.g., rail, truck), the condition of the road or railway, and the design of the transport vehicle.

Section 5.4 of the *Emergency Response Procedure for Cyanide Related Emergencies* covers transport related emergencies on the mine.

The emergency response plans include the following.

- Specific response actions, as appropriate for the anticipated emergency situations, such as clearing site personnel and potentially affected communities from the area of exposure are detailed in the various scenarios contained *Emergency Response Procedure for Cyanide Related Emergencies*.
- There are fixed cyanide monitors located at designated cyanide hotspots, which have two alarms. The first alarm is at 4.7 ppm and the second alarm is set at 10 ppm for both the fixed and personal monitors. When the first alarm sounds all workers not wearing the appropriate PPE must evacuate the area. When the second alarm sounds all workers must evacuate the area.
- Use of cyanide antidotes and first aid measures for cyanide exposure is detailed in the *Cyanide First Aid SOP*. This includes exposure through inhalation, digestion or absorption through the skin.
- Control of releases at their source is detailed in the various scenarios contained in *Emergency Response Procedure for Cyanide Related Emergencies*.
- Containment, assessment, mitigation and future prevention of releases is detailed in *Emergency Response Procedure for Cyanide Related Emergencies Section 5.25.5 Site – Dry Spill and Section 5.25.6 Site – Wet Spill.* Any incident will lead to an incident investigation that would identify the actions to be undertaken to prevent future releases.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.2**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation has involved its workforce and stakeholders in the cyanide emergency response planning. Safety Committee Meetings review the procedures and emergency response plans and come up with any concerns regarding a procedure. Any change to a procedure or emergency response plan is communicated to the workforce where there is an opportunity to provide input. Following this the procedure is signed off by the employees stating that they have attended the session.

The operation made potentially affected communities aware of the nature of their risks associated with accidental cyanide releases and consulted with them directly or through community representatives regarding appropriate communications and response actions as part of the Mine's stakeholder engagement process. The nearest communities are 1.2 km upstream of the TSF and therefore would not be significantly affected in the event of an emergency.

There is a fully equipped clinic on-site together with an Emergency Response Team (ERT) that are trained to handle hazardous chemical spills and fires. No local response agencies are involved in the emergency plan as the ERT and medical clinic are situated inside the mine security area. The on-site clinic and ERT are involved with the full cycle cyanide mock drills and de-briefing sessions following drills. Local response agencies do not have the training or equipment to assist in the event of an emergency and are a significant distance from the Plant.

Consultation with external stakeholders is not required as they are not involved in the event of an emergency. All of the stakeholders involved in the Emergency Response Plan are within the mine and Plant and therefore consultation is undertaken through internal mechanisms such as monthly safety meetings.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.3**

☐ not in compliance with

Summarise the basis for the findings/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 cyanide related elements of the Emergency Response Plans include the following.

a) Designate primary and alternate emergency response co-ordinators who have explicit authority to commit the resources necessary to implement the Plan. It is stated in the *Emergency Response Plan – Obotan Mine* Section 4 Responsibilities that the General Manager Executive "assumes the role of Site Emergency Controller (SEC) and controls authority for any emergency event at Asanko Operations. Provides the necessary resources and equipment to carry out required emergency services as stated in this document."

b) The Emergency Response Team is identified with details of the members on duty posted at the entrance to the Plant.

c) It is stated in the *Emergency Response Procedure for Cyanide Related Emergencies,* Section 5.1.6 that the Emergency Response Team will be trained and competent in the following: Fire Fighting – structural and wildfire; Vehicle Extrication; First Aid (First Responder); Vertical Rescue; Confined Space Rescue; Chemical Spill Management (HAZCHEM); and Breathing Apparatus.

d) *Emergency Response Plan – Obotan Mine* Section 5.3.1 Emergency Contact List details the contact information of the co-ordinators and team members. The call out procedures are also included in the Emergency Response Plan.

e) *Emergency Response Plan – Obotan Mine* Section 4 Responsibilities specifies the duties and responsibilities of the co-ordinators and team members.

f) The emergency response equipment is listed in the checklist for the Emergency Cyanide Cabin, which was observed as part of the monthly inspections. The operation has oxygen in the Control Room and at the top of the CIL. The Emergency Cyanide Cabin contains oxygen, a resuscitator, SCBA, antidote kit (Cyanokit), chemical suits, boots, full face masks with canisters, which is located near the cyanide mixing/ storage facility. The Ambulance is present at each mixing event as part of the Emergency Response Team and contains oxygen, resuscitator, and a full set of PPE (suit, boots, full face mask with canister).

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g) The operation undertakes monthly inspection of the Emergency Cyanide Cabin as part of the *Cyanide Emergency Equipment Checklist*.

h) Describe the role of external responders, medical facilities and communities in the emergency response procedures. No local response agency is involved in cyanide emergencies or play a role in the cyanide emergency response process. In the event of an emergency the security control room is notified who then informs the Clinic, ERT and relevant response co-ordinators. The Clinic then dispatches the ambulance and paramedic to the scene. There are no external entities with roles and responsibilities identified in the Emergency Response Plans and therefore it is not necessary to ensure they are aware of roles and are not included in mock drills or implementation exercises as they do not have the required training, equipment or expertise to address the relevant emergencies on the mine or in the Plant.

Standard of practice 7.4: Develop procedure for internal and external emergency notification and reporting.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.4**

☐ not in compliance with

Summarise the basis for the findings/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 Plans include procedures and contact information for notifying management, regulatory agencies, and medical facilities of the cyanide emergency including the following. *Emergency Response Plan – Obotan Mine* Section 5.3.1 Emergency Contact List details the contact information of the management, regulatory agencies, and medical facilities. The Plan also includes procedures for contacting the relevant parties.

There are no external response providers with roles and responsibilities identified in the Emergency Response Plan as they do not have the required training, equipment or expertise to address the relevant emergencies on the mine or in the Plant.

The Plan includes procedures and contact information for notifying potentially affected communities of the cyanide related incident and any necessary response measures and for communication with the media. *Emergency Response Plan – Obotan Mine* Section 5.5 Media Relations details the communication with the media. The procedures for contacting potentially affected communities are included with each emergency scenario where it states that the “General Manager and Environmental and External Relations Manager will arrange for notification of the regulators and community leaders”.

The operation has a procedure for notifying the ICMI of any significant cyanide incidents, as defined in the ICMI's Definitions and Acronyms document. There have been no significant cyanide incidents since the previous recertification audit.

Emergency Response Procedure for Cyanide Related Emergencies, Section 5.1.7 Notification to the ICMI states that in the case of a significant cyanide incident the ICMI must be notified within 24 hours of the incident.

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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.5**

☐ not in compliance with

Summarise the basis for the findings/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 spill procedures referred to in the emergency response plans describe specific remediation measures as appropriate for the likely cyanide release scenarios as detailed below.

a) Recovery or neutralisation of solutions or solids. The procedures for the recovery or neutralisation of solutions and solids include the following.

Emergency Response Procedure for Cyanide Related Emergencies:

- Section 5.12 Emergency Response for Solid Cyanide Spillage on Land;
- Section 5.13 Emergency Response for Spillage of Solid Cyanide on to Wet Areas;
- Section 5.14 Response for Spillage of Cyanide Solution/ Slurry within the Mine Catchment Area; and
- Section 5.15 Response for Spillage of Cyanide Solution into a Nearby Stream.

b) Decontamination of soils or other contaminated media. Section 5.25 Clean Up and Decontamination Procedure stipulates that the spill response equipment and PPE will be washed and decontaminated in an area that is fully contained. The wash water will be disposed of in the process plant or the tailings dam. Section 5.25.6 Site – Wet Spill details that following neutralisation with ferrous sulphate (that is stored in the form of a powder and will be used in this form) the end of 0.2 mg/l WAD cyanide must be reached.

c) Management and/or disposal of spill clean-up debris. The ferrous sulphate is stored in the chemical storage area. The spill procedures state that the soil/sand contaminated with cyanide and ferrous sulphate must be disposed of into the CIL Circuit.

d) Provision of an alternate drinking water supply. The TSF and Plant have no discharges to surface water and are a significant distance from the nearest river and therefore any incident will not affect communities drinking water and an alternative supply will not be required. However, *the Emergency Response Procedure for*

Cyanide Related Emergencies includes Environment/Community Affairs Managers to determine if community water supplies are impacted and if required provision of an alternative water supply until confirmed remediation has been completed.

Emergency Response Procedure for Cyanide Related Emergencies Section 5.25 Clean Up and Decontamination Procedure states “do not use chemicals such as sodium hypochlorite, ferrous sulphate, and hydrogen peroxide to treat cyanide that has been released into surface water or that has the potential to reach surface water.

The plans address the potential need for environmental monitoring to identify the extent and effects of a cyanide release, and include sampling methodologies, parameters and, where practical, possible sampling locations. This is detailed in the *Emergency Environmental Monitoring Procedure.*

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

The operation is

☒ **in full compliance with**

☐ **in substantial compliance with** **Standard of Practice 7.6**

☐ **not in compliance with**

Summarise the basis for the findings/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.

The operation reviews and evaluates the cyanide related elements of its Emergency Response Plan for adequacy on a regular basis. It is stated in *Emergency Response Procedure for Cyanide Related Emergencies* Section 6.1 that the Plan will be reviewed every 2 years, and when there is a significant change, shift, risk or expansion within the operation. The current revision is the 4th since 2016.

It is stated in both the *Emergency Response Procedure for Cyanide Related Emergencies* and the *Emergency Response Plan – Obotan Mine,* that the plans will be updated and reviewed every two years and when there is a significant change, shift, risk, or expansion within the operation.

Section 6.10 of the TSF Emergency Response Procedure states “this Emergency Plan shall be updated and reviewed every two years and when there is a significant change, shift, risk, or expansion within the operation”.

Mock emergency drills are conducted periodically to test response procedures for various cyanide exposure scenarios, and lessons learned from the drills are incorporated into response planning. The schedule for mock emergency drills in 2024 for the whole mine was observed by the auditors for 2024 with at least cyanide mock emergency drill being undertaken each year.

The mock drill reports observed were not tabletop exercises and involved all of the personnel that may be expected to respond to the type of cyanide incident simulated. The drill reports include the following: scenario, purpose, event sequence, response actions taken, incident debrief, positive learnings, areas for improvement, and summary of outcome.

Provisions are in place to evaluate and revise the plans, as necessary, following mock drills and following an actual cyanide-related emergency requiring its implementation. There have been no cyanide related emergencies within the last three years or cause to update the plans in response to a finding from the mock drills.

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.

The operation is

☒ **in full compliance with**

☐ **in substantial compliance with Standard of Practice 8.1**

☐ **not in compliance with**

Summarise the basis for the findings/deficiencies identified.

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

The operation trains all personnel who may encounter cyanide in cyanide hazard recognition. All employees must attend induction at start of employment and then again after return from annual leave. A test is written after completion of the cyanide induction training with an 80% pass mark required. This induction includes cyanide hazards, the health effects of cyanide, the symptoms of cyanide exposure, and the emergency response procedures including cyanide exposure first aid.

All personnel on the mine are trained in cyanide hazard recognition through the initial induction for the mine, which is refreshed annually. All employees or contractors working inside the Plant or at the TSF need to attend the Cyanide Awareness Training as part of the induction, which is refreshed annually following their return from leave.

It was observed that cyanide training records are kept electronically as well as hard copies in the employee files. Cyanide training records are retained for at least 3 years for contractors and permanently for employees. Training records include the tests to determine competency.

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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.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 8.2**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

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 operation trains workers to perform their normal production tasks through Standard Operating Procedure training sessions prior to them performing the tasks in the field. Following this a test is written with an assessor making a recommendation as to whether the person is passed for those operations or further on the job training is required.

It was observed that the training elements necessary for each job involving cyanide management are identified in the operator skills matrix and that all modules required per category or worker are included in the training materials. This includes Process Operations Staff and Process Maintenance Staff. The elements are split into levels 1 to 5 with Level 5 being the entry level and Level 1 being Senior Level. For each SOP the individuals are identified as being T – Training, O – Operational, or P-Proficient.

Task training related to cyanide management activities is provided by an appropriately qualified person. The Training for personnel in the Plant that may come into contact with cyanide is undertaken by the Training and Development Officer. The qualifications of the training officer are: BSc. Metallurgy; MBA; Certified Professional in Training Management; and Certificate in Train the Trainer.

Workers are trained prior to working with cyanide. All employees receive induction training before being allowed to start with their training in the sections under supervision. The worker is only allowed to work unsupervised with cyanide once assessed and signed off for each task by his supervisor.

Employees receive Plant specific induction and training in SOPs prior to allowing them to work with cyanide. Planned Task Observations (PTOs) are used to assess competence.

Employees working in areas where cyanide is present are trained annually by means of the Sodium Cyanide Awareness Training and through training on the SOPs. Training on SOPs

are refreshed on a 12-monthly basis. The operation evaluates the effectiveness of training through a test at the end of the induction. Pass mark is 80%. The training is refreshed on an annual basis in addition with the testing. PTOs are undertaken more than once on a 12 month basis.

Records are retained for at least 3 years for contractors and for the duration of employment for permanent employees. This was verified during review of the interviewees training records, which included the names of the employee and the trainer, the date of training, the topics covered, and how the employee demonstrated an understanding of the training materials.

These training records include the name of the employee, the name of the trainer, the date of the training, the topics covered and how the employee demonstrated an understanding of the training materials.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 8.3**

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

All cyanide unloading, mixing, production and maintenance personnel are trained in the procedures to be followed if cyanide is released, including decontamination and first aid procedures including decontamination.

All Plant workers are trained as First Responders including cyanide first aid. The first responders will administer oxygen and put the worker under the shower for decontamination while waiting for the mine ambulance and the ERT.

All employees must attend induction at start of employment and then again after return from annual leave. The auditors observed the Cyanide Awareness Training that is presented to Plant personnel as part of their induction. This training includes what to do in the event of a cyanide emergency, including a spill.

The Emergency Response Co-ordinators and members of the ERT are trained in the procedures included in the Emergency Response Plans regarding cyanide, including the use of the necessary response equipment. There are 8 members of the Emergency Response Team with 2-3 members present on each shift.

Members of the ERT receive General Hazardous Chemical Training including cyanide first aid training, firefighting, confined spaces, SCBA use, rescue from heights, emergency evacuation, emergency reporting protocols, and advanced life support.

There is a fully equipped clinic on-site together with an ERT that are trained to handle hazardous chemical spills and fires. No local response agencies are involved in the emergency plan as the ERT and medical clinic are situated inside the mine security area. The on-site clinic and ERT are involved with the full cycle cyanide mock drills and de-briefing sessions following drills. Local response agencies do not have the training or equipment to assist in the event of an emergency and are a significant distance from the Plant.

Plant employees and ERT members receive annual refresher training including response to cyanide exposures and releases. All employees must attend induction at start of employment and then again after return from annual leave. The auditors observed the Cyanide Awareness Training that is presented to Plant personnel as part of their induction. This training includes what to do in the event of a cyanide emergency, including a spill.

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The auditors observed the training records showing passing the test for the cyanide induction training, which included the Cyanide Awareness Training.

Cyanide Emergency Response Training Records are retained for at least 3 years for contractors and for the duration of employment for permanent employees. This was verified during the review of the training records. The records include the names of the employee and the trainer, the date of training, the topics covered, and how the employee demonstrated an understanding of the training materials.

Principle 9 – Dialogue and Disclosure

Engage in Public Consultation and Disclosure.

Standard of practice 9.1: Promote dialogue with stakeholders regarding cyanide management and responsibility address identified concerns.

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for the findings/deficiencies identified.

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

The operation provides the opportunity for stakeholders to communicate issues of concern regarding the management of cyanide. The mine undertakes quarterly meetings with communities through the Community Development Committees (CDC). These meetings are open to the community. These are undertaken for 23 surrounding communities, with one CDC for each community. The 23 communities have been split in to 5 zones with one meeting per quarter for each zone.

The Community Consultative Committee (CCC) contains the hierarchy of community leaders from the 23 communities that must be consulted prior to meetings being held with the community. Quarterly meetings are undertaken with the CCC to discuss general issues related to the operations. Ad hoc meetings are also held at the request of the CCC. District Police Commander and Chairman of District Security Committee also attend the CCC meetings.

There are also 9 Community Information Centres with Community Liaison Officers working form these Centres. The Information Centres provide a point of contact in the community where stakeholders can communicate issues of concern. In addition, there is a toll free number for reporting grievances.

In addition, there are open days for communities close to the TSF in order to communicate the various issues and what to do in an emergency.

Standard of practice 9.2: Make appropriate operational and environmental information regarding cyanide available to stakeholders.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 9.2**

☐ not in compliance with

Summarise the basis for the findings/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.

The operation has developed written descriptions of how their activities are conducted and how cyanide is managed. These descriptions are available to communities and other stakeholders. A written description of the mining activities including cyanide management was included in the minutes of the CDC meeting.

This written description is available to all of the attendees as part of the meeting minutes. In addition, an abridged version is posted on all of the notice boards in the Community Information Centres in English and the local language of Twi.

The operation has disseminated information on cyanide in a verbal form where a significant percentage of the local population is illiterate. All of the meetings with the CDC and CCC described in Standard of Practice 9.1 are undertaken in the local language. Information is provided in a verbal format, with the minutes providing a written record. In addition, Community Liaison Officers will provide information in the local language to individuals coming to the Community Information Centres.

The operation makes information publicly available on confirmed cyanide release or exposure incidents including the following.

- Cyanide exposure resulting in hospitalisation 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; and
- Releases that are or that cause applicable limits for cyanide to be exceeded.

No cyanide related incidents have occurred since the last recertification audit.

When there is a crisis for any of the scenarios listed above a Crisis Management Committee is formed, which includes the Community Relations Manager. The Community Relations

Manager under instruction from the committee will disseminated information to the communities regarding the incident. There would initially be a meeting with the CCC. There will also be an announcement through the Community Information Centres.

It is mandatory by Ghanaian law to report all incidents meeting the requirements of the Minerals Commission as detailed in the Minerals and Mining (Health Safety and Technical) regulations 2012, which include those incidents listed above. The operation demonstrated to the auditors that there is a Ghanaian Chamber of Mines WhatsApp group, where information regarding incidents reported to the Chamber of Mines is disseminated i.e. including mines and public agencies.

The mine's sustainability report also provides details of any significant health and safety injuries or fatality and any significant environmental incidents. The auditors observed the 2023 sustainability report which includes details of 2 fatalities due to a vehicle accident.

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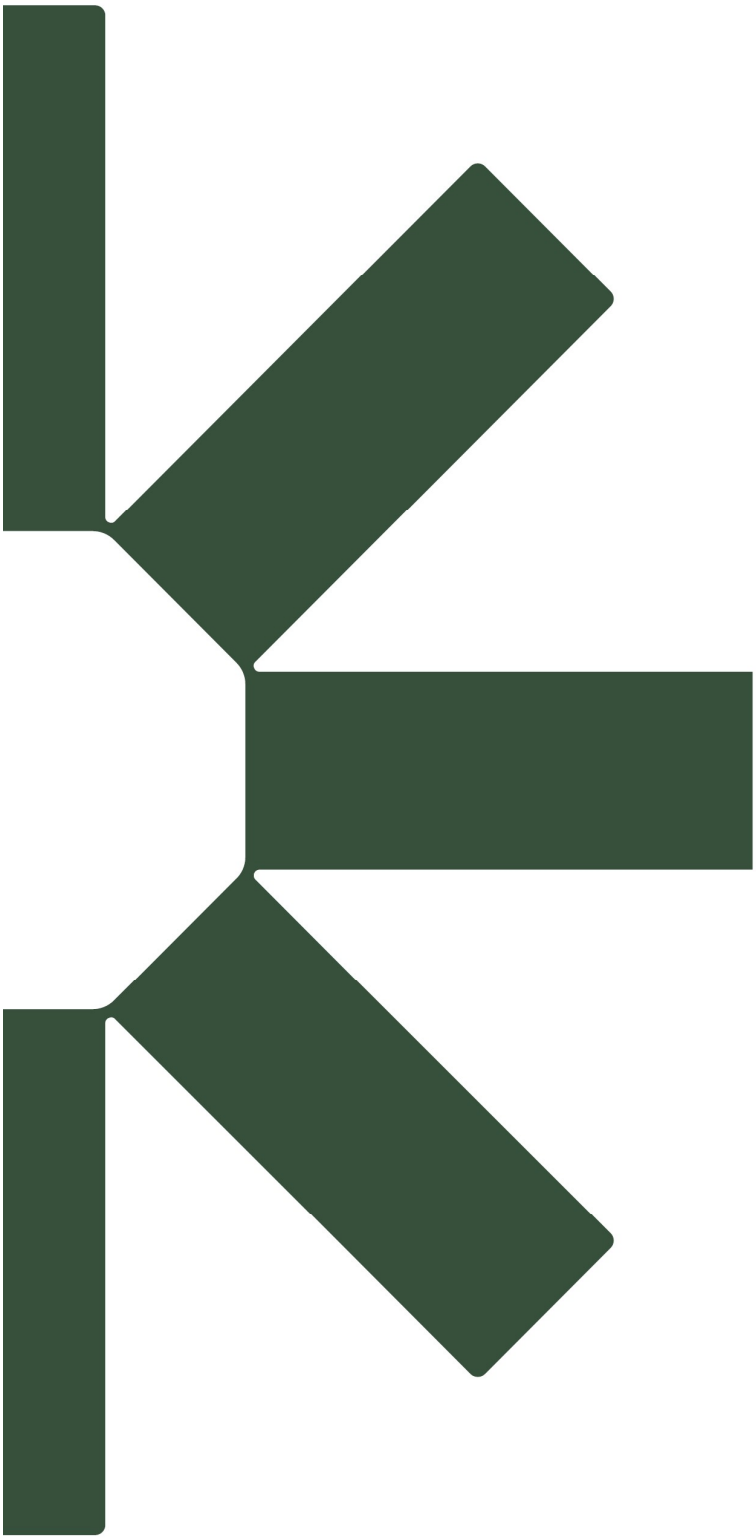

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