Newmont Akyem Gold Mine

ICMI GOLD MINE RECERTIFICATION AUDIT

Summary Audit Report

MARCH 2025

PUBLIC

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1 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Cyanide User Facility:	Akyem Gold Mine
Name of Cyanide User Facility Owner:	Newmont Corporation
Name of Cyanide User Facility Operator:	Newmont Golden Ridge Limited
Name of Responsible Manager:	Mr Robert Owusu-Bempah Acting General Manager
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2 LOCATION DETAIL AND DESCRIPTION OF OPERATION

2.1 MINE LOCATION

The Akyem Gold Mine is an open-pit operation located in the Birim North District of the Eastern Region, approximately 128 km northwest of the capital Accra in Ghana.

The mine is located within the Upper Guinean Forest, extending from Guinea to Cameroon. The mining area lies within the Moist Semi-deciduous Zone of forest and is characterised by steep hills and undulating landscape with elevations ranging from 155 to over 295 metres above mean sea level. The climate in Ghana is tropical, with a wet season and dry season.

The Akyem mine operates within 10 host communities namely Adausena, Yaw Tano, Old Abirem, New Abirem, Hweakwae, Tano, Afosu, Mamanso, Ntronang and Yayaaso.

2.2 DESCRIPTION

The Akyem Gold Mine Process Plant consists of a conventional mill and carbon-in-leach (CIL) circuit. Ore from the mine workings is transported to a crushing, grinding and milling circuit. Ore processing consists of CIL cyanidation, elution and gold recovery. Tailings material is conveyed by pipeline to a counter-current decantation (CCD) plant where tailings are rinsed with water to reduce Weak Acid Dissociable (WAD) cyanide concentrations to less than 50ppm WAD cyanide. The tailings are pumped from the CCD circuit via a dedicated pipeline contained within a lined tailings trench, to an engineered tailings storage facility (TSF) for final disposal. Tailings water is recovered from a decant pond, and recycled back to the process plant for re-use in the milling circuit.

The Akyem Gold Mine purchases sodium cyanide from Samsung C&T Deutschland and this cyanide is manufactured by Asahi Kasei Corporation, Japan and TongSuh Petrochemical Co., Ltd. manufacturing plant in Korea. The cyanide, in solid briquette form, is packaged in one tonne flexible intermediate bulk containers (FIBC) comprising poly-woven bags inside plywood boxes. The FIBCs are transported by sea in shipping containers to the port of Tema in Ghana from where the cyanide contained in the FIBC is removed and transferred to a tank container at the Vehrad Transportation and Haulage repackaging facility in Tema. The tank containers (Isotainers) are transported by road to Akyem Gold Mine. The cyanide is delivered to the Akyem Process Plant in dry briquette form, in truck-mounted isotainers, for solid to liquid sparging by Vehrad Transportation and Haulage.

During sparging, pH adjusted water from the mixing tank is continuously passed through the isotainer in a closed circuit until the cyanide has been dissolved and the required concentration of liquid cyanide is achieved. On completion of the sparging process, the liquid cyanide is transferred from the mixing tank to a dedicated storage tank ready for delivery by pipeline to the process plant.

Earlier in 2024, Akyem Gold Mine commissioned a cyanide destruction treatment plant to treat excess water from the TSF, returning more high-quality treated water to the environment. The Akyem Cyanide Detox Plant treats TSF supernatant from Cell 2 by cyanide destruction using hydrogen peroxide and a copper catalyst. The treated water reports to the Impacted Water Pond (IWMP) that feeds the site's Reverse Osmosis Water Treatment Plant after which it is released to the Environmental Control Pond, tested and released into the wetland system that eventually flows into the Mamang River.

3 SUMMARY AUDIT REPORT

3.1 AUDITOR FINDINGS

Akyem Gold Mine is:

☒ **in full compliance with**

☐ in substantial compliance with

☐ not in compliance with

The International Cyanide Management Code

3.1.1. Compliance Statement

This operation has not experienced any compliance issues during the previous three-year audit cycle.

No significant cyanide incidents or cyanide exposure and releases were noted as occurring during the audit period.

3.2 AUDITOR INFORMATION

Audit Company: WSP Group Africa (Pty) Ltd

Audit Team Leader: Marié Schlechter (Lead Auditor and Mine Technical Specialist)

Email: marie.schlechter@wsp.com

Name and signature of other auditors:

Name	Position	Signature	Date
Marié Schlechter	Lead Auditor and Technical Specialist		16/01/2025
Benjamin Asiedu	Trainee Auditor		16/01/2025

3.3 DATE OF AUDIT

The re-certification audit was undertaken between 21 and 25 October 2024.

3.4 AUDITOR ATTESTATION

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

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

PRINCIPLE 1 – PRODUCTION

Encourage Responsible Cyanide Manufacturing by Purchasing from Manufacturers that Operate in a Safe and Environmentally Protective Manner

Standard of Practice 1.1: Purchase cyanide from certified manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide, and to prevent releases of cyanide to the environment.

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The cyanide purchased for use at Akyem Gold Mine is manufactured at facilities certified as being in compliance with the Code.

Samsung C&T Deutschland supplied Akyem Gold Mine with sodium cyanide from the Asahi Kasei Corporation production facility in Japan and the Tongsuh Petrochemical Corporation Ltd. production facility in Korea.

The Asahi Kasei Corporation production facility is certified as being in full compliance with the Code on 15 December 2021, with prior certification on 26 October 2018.

The Tongsuh Petrochemical Corporation Ltd production facility is certified as being in full compliance with the Code on 19 April 2023, with prior certification on 9 March 2020.

The cyanide is transferred to Isotainers at the Vehrad Transport & Haulage Repackaging Plant #1 and #2 in Ghana prior to delivery to Akyem Gold Mine. Both the Vehrad Transport & Haulage Repackaging Plant #1 and #2 are certified as being in full compliance with the Code on 5 September 2024.

Samsung C&T Africa Supply Chain was recertified on 9 August 2024, with prior recertification in 2021.

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 this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with Standard of Practice 2.1; requiring 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 has chain of custody records identifying all the elements of the supply chain, (producer, transporters) that handle the cyanide brough to Akyem Gold Mine.

The cyanide is transported via the Samsung C&T Deutschland GmbH Africa Supply Chain to the Port of Tema in Ghana where it is accepted by Vehrad Transport & Haulage Company Limited, taken to their sparging facility and transferred to Isotainers. The Isotainers travel to the mine via road.

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

- The Samsung C&T Africa Supply Chain includes transport from manufacturers in Korea using certified carriers Bukwang Logistics Co. Ltd. and Hae Dong Logistics to Pusan New Port, South Korea, followed by ocean transport by shipping companies MSC, Maersk Hapag Lloyd, and CMA-CGM to, *inter alia*, the port of Tema, Ghana, followed by road transportation in Ghana by certified transporter Vehrad Transport and Haulage Ltd., amongst others, in Africa.
  The Samsung C&T Africa Supply Chain was recertified on 9 August 2024.
- Vehrad Transport and Haulage is a certified transporter under the Code, which includes repackaging the cyanide at the Vehrad Transport & Haulage Repackaging Plant #1 and #2 in Tema and transporting cyanide from this facility to mines in Ghana. Vehrad Transportation and Haulage Ltd., as well as the repackaging plants, was recertified against the code on 5 September 2024.

PRINCIPLE 3 – HANDLING AND STORAGE

Protect Workers and the Environment during Cyanide Handling and Storage

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

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The facilities for unloading and storing of cyanide have been professionally designed and constructed in accordance with applicable jurisdictional rules and sound and accepted engineering practices, as detailed in the initial Code certification audit.

The cyanide reagent facility consists of:

- Cyanide offloading area
- Cyanide sparge tank
- Cyanide storage tank

In the period since the previous recertification audit the cyanide sparge tank and cyanide storage tank were replaced.

The new tanks were manufactured in accordance with the original design drawings for the original tanks. The tanks were found fit for purpose by personnel certified to conduct Non-Destructive Testing (NDT).

During the site inspection, the auditor verified that the cyanide offloading area, cyanide sparging tank and storage tank are located away from people and surface water, and located within the high security and access-controlled area of the process plant.

The cyanide off-loading area consists of a concrete area with humps and a bund on three sides. Any spillage from this area will drain directly into the cyanide sparge and storage bund due to the slope of the concrete pad.

The cyanide sparge and storage tanks are located inside the concreted area equipped with a bund, sump and sump pump. Spillage or rainwater collected in the cyanide sparge tank and storage tank bund is pumped back to the process.

Level indicators and alarms are installed on both the cyanide sparge and the cyanide storage tank. The levels of these tanks and the alarm levels are visible to the Control Room Operator on the

Citect[1] SCADA system as well as to the operators working in the offloading and storage area. High level alarms observed and heard in the control room, is also audible in the field. Communication between operators and the control room is via a two-way radio. The tank levels are recorded from the Citect SCADA system by the Control Room Operator on a daily basis.

The level sensors and warning sirens at the cyanide sparge tank and cyanide storage tank are inspected 6 monthly as part of the planned maintenance programme.

Solid cyanide is received in an Isotainer. After sparging, the liquid cyanide is pumped via the cyanide sparge tank to the cyanide storage tank. Both the cyanide sparge and storage tanks are located outside in an open-air environment and have ventilation pipes at the top to prevent the build-up of hydrogen cyanide (HCN) gas.

During the site inspection, it was verified that the cyanide sparge and storage tanks are located within the fenced, locked and guarded area of the plant. The cyanide is stored separately from incompatible materials. Drainage from the area is also prevented from mixing with incompatible materials.

[1] Citect Supervisory Control and Data Acquisition (SCADA) is used to manage and monitor production processes.

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

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Solid sodium cyanide is received in Isotainers. The Isotainers are returned to Vehrad Transportation and Haulage facility in Tema after the sparging and off-loading of the liquid cyanide.

The Isotainer, hoses and off-loading area is rinsed with water after the sparging process has been completed. The rinse water drains to the cyanide storage area sump from where it is returned to the process.

Procedures are in place that detail:

- The operation and sequencing of feed and discharge valves during and after sparging and transferring of the cyanide.
- Maintenance of all hoses, valves and couplings for sparging and transferring of cyanide.
- Timely clean-up of solid or liquid cyanide spills during mixing.
- The role and responsibilities of an additional individual to observe from a safe distance in order to be able to respond to any emergency.
- The use of appropriate personal protective equipment (PPE) during the sparging and unloading of liquid cyanide.
- The cyanide transporter, Vehrad Transportation and Haulage, adds the carmoisine dye with the solid sodium cyanide in the Isotainer prior to transport from the facility in Tema to Newmont Akyem Gold Mine.

PRINCIPLE 4 – OPERATIONS

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

Standard of Practice 4.1: **Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures.**

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Written management and operating plans or procedures have been developed for cyanide facilities including sparging, unloading, storage facilities tailings impoundments and cyanide destruction.

The operation has plans and procedures that identify the assumptions and parameters on which the facility design was based and any applicable regulatory requirements (e.g., freeboard required for safe pond and impoundment operation; the cyanide concentrations in tailings on which the facility's wildlife protection measures were based) as necessary to prevent or control cyanide releases and exposures consistent with applicable requirements.

Critical parameters include:

- pH in the process solution to prevent the excessive evolution of HCN gas.
- The concentration of WAD cyanide at the TSF spigot discharge.
- Water levels at the Event Pond and the Process Water Pond (PWP)
- Freeboard at TSF Cell 1 and Cell 2
- The cyanide detoxification target at the Cyanide Detoxification Plant prior to transfer of the water to the IWMP.

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 preventative maintenance activities.

The *Operations, Maintenance, and Surveillance (OMS) Manual: TSF Cell 1 & 2* stipulates the requirements for the operation of the required TSF freeboard, and general water management measures to ensure compliance with the Code.

The following operational inspections are conducted:

- Process plant Inspections:
  - Daily reagent area inspection
  - Daily pre-leach and CIL area inspection
  - Daily CCD inspection
  - Daily grinding area inspection

- Daily elution area inspection

- Tailings Storage Facility and Water Storage Facility Inspections:
  - Daily, weekly and monthly Tailings Storage Facility and Water Storage Facility inspection.
  - Quarterly Tailings Storage Facility inspection.

Akyem Gold Mine has implemented the *Change Management Guideline* and the *Management of Change Standard*. The guideline provides a recommended and systematic approach to ensure changes that may impact safety, health, environment, external relations or productivity are identified, assessed, managed and appropriately communicated to all affected personnel.

The standard aims to ensure effective management of changes to Newmont facilities, equipment, processes, material resources or programs which could introduce new risk to people, the environment, stakeholders and the business. It ensures that changes are identified, reviewed by appropriate stakeholders and managed effectively prior to being implemented. This is intended to minimise the introduction of adverse impact to their business and stakeholders and to optimise opportunities for business improvement. The Management of Change process helps ensure that opportunities to changes are optimised and unintended consequences of changes are minimised.

It was observed that the Management of Change Tool, an electronic system used to capture and guide the change management process, requires the relevant stakeholders, including the Health, Safety and Environmental Department, to review and sign-off on all changes, including cyanide-related process changes and modifications, prior to implementation of the changes and modifications.

Akyem Gold Mine has developed the following procedures for contingencies and non-standard operating conditions, including upset in water balance, corrective action, and either planned or emergency shutdowns, both long and short-term:

- The *Operations, Maintenance, and Surveillance (OMS) Manual: TSF CELL 1 & 2* describes the measures to ensure that the Akyem Gold Mine TSF is operated safely, in accordance with the design and local legal requirements. The plan requires the monitoring and maintenance of the TSF decant pond level to prevent an upset in the operational water balance that could present a risk of exceeding the design containment capacity.

  It further describes the measures in the event of a planned plant shutdown to reduce the supernatant pond volume to the most practical minimum volume. In the case of an unplanned shut-down, especially during the wet seasons of the year, every effort should be made to reduce the length of the shut-down period.

- The *Process Plant Shutdown Protocol* makes provision for both when short term and longer-term temporary closure or cessation of the operations may be necessary by requiring regular inspection of all plant areas by assigned operations personnel to continue throughout the duration of the shutdown. Operating procedures for the event pond must be followed through-out the shutdown duration and any abnormal conditions must be reported to the area supervisor immediately. Control room operators must monitor and respond to level and pressure alarms in the same process they would if the plant was operating and monitor refilling of tanks and dams closely.
- The *Plant Controlled Start-up Procedure* describes the measures for the safe, efficient and smooth start-up of the process plant operations after either a short term or longer-term shutdown.
- In addition, the SAP system records the corrective actions and corrective maintenance that is being undertaken when inspections or monitoring identifies a problem.

Additional potential upset conditions, such as chemical and tailings spillage and pond overtopping, are covered in the site Emergency Management Plans.

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

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

The operation inspects cyanide facilities on an established frequency sufficient to ensure and document that they are functioning within design parameters. Operational inspections are carried out on a daily basis, as a minimum, at cyanide related areas in the plant, TSF and Water Storage Facilities (WSF).

Preventative and planned maintenance inspections are conducted on frequencies varying between daily, weekly, monthly, quarterly and annually, dependent on the equipment, task and area, dependent on risk.

Inspections are documented, listing specific items to be observed, includes the date, name of the inspector and any deficiencies observed. The nature and date of corrective actions are documented in the planned maintenance system. Inspection records are retained.

Preventative maintenance programs are implemented, and activities documented to ensure that equipment and devices function as necessary for safe cyanide management.

The plant uses SAP, a computerised maintenance system to plan and schedule inspection and maintenance activities at varying frequencies. Work orders are issued on SAP and stored electronically on the system. The maintenance planning department also keeps hard copies of the records of maintenance activities.

Job cards are raised where ad hoc maintenance is required by the plant inspections or observations from operational personnel.

Records observed by the auditor indicated that the maintenance programme includes cyanide facilities, including pumps, pipelines and instrumentation, to ensure that equipment and devices function as necessary.

Electricity is supplied to Akyem Gold Mine via the national grid. The process plant is equipped with seven Cummins diesel powered generator (Gensets) to provide back-up electricity in the event of a power failure. The Gensets can run the entire plant, except for the mills, therefore ensuring the operation of sump pumps, agitators, etc. The standby generator sets are inspected weekly as part of the plant preventative maintenance program and serviced annually by an external service provider.

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

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

Summarise the basis for this Finding/Deficiencies Identified:

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

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

Akyem Gold Mine conducts test work to optimise the use of cyanide in the gold recovery process in order to:

- Maintain optimum cyanide addition to minimise sodium cyanide consumption while ensuring maximum gold recovery; and
- Maintain the WAD cyanide at the TSF spigot discharge below 50 ppm.

The process plant conducts internal and external optimization test works which include the following:

- In-house test work – The plant conducts weekly bottle roll tests to determine the optimal cyanide concentration for the ore currently processed.

  Bottle roll tests and diagnostic tests are conducted to confirm cyanide addition and plant recovery on a weekly basis. Based on the results, a set point is established, and the pre-leach thickener density is controlled.

- Corporate test work – Test work is conducted by the Akyem Gold Mine Metallurgical Department in conjunction with the Newmont Technical Services Facility in Denver, Colorado, on representative ore samples of areas to be mined and processed in the next 3 years, to determine optimal setpoint while still maintaining the WAD cyanide level below 50 ppm at the TSF spigot discharge.
  The test results are compared to historical test work and, if needed, the cyanide set point is adjusted.

The Plant uses a TAC 1000 cyanide analyser that is installed to read both CIL Tank 1 and Tank 2, dependent on which is the current head tank. The analyser is used to control cyanide addition in accordance with the cyanide setpoint.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.3**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in FULL COMPLIANCE with Standard of Practice 4.3; To implement a comprehensive water management program to protect against unintentional releases.

Akyem Gold Mine has implemented a comprehensive and probabilistic water balance model that was developed using the GoldSim software platform.

A consultant assists Akyem Gold Mine with the update, management and calibration of the water balance model. Scenarios are generated and predictions are made based on the onsite data.

The water balance is used to forecast potential water shortfalls or surplus based on various modelled meteorological and operational scenarios.

Water management review meetings are held every 2 weeks during which water related key performance indicators (KPI's), challenges, opportunities and water related projects are discussed and tracked.

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

- Inputs relating to the solutions applied to the TSF Cells:
  - Tailings percent solid (mean daily value from Marcy scale)
  - Bulk Tailings from to TSF cells
  - Bulk density of tailings slurry.
- A 1:100 year / 24 hr event that equates to 185 mm in 24 hrs.
- Historical and current rainfall and evaporation data collected on site.
- Basin yield from the various undisturbed watersheds around the site. Runoff from undisturbed (or naturally vegetated) watersheds surrounding the Akyem Gold Mine does not constitute a significant source of water entering the mine water management system but does form a large proportion of water flowing through the WSF and sediment control structures.
- Ghana is situated in the tropics and is therefore not affected by freezing and thawing conditions.
- Solution losses in addition to evaporation such as water released from the Environmental Control Pond (ECP) to the environment (after treatment) as well as from the Sediment Control Structures (No 1,2,3 and 4), after confirmation of the water quality.
- The effects of potential power outages.
- The availability of the Cyanide Detox Plant and the Water Treatment Plant prior to water being released to the environment.
- The water entrained in TSF Cell 1 and Cell 2.

The ponds and impoundments are designed and operated with adequate freeboard above the maximum design storage capacity determined to be necessary from the water balance calculations.

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

Routine monitoring of solution levels is conducted in the Event Pond, Process Pond, Raw Water Pond and the TSF Decant Pond. Additionally, sonic indicators are used to monitor the levels in real time and are recorded on the Citect system.

A closed-circuit camera is setup to enable visual monitoring of the Event Pond by control room operators. This provides additional support to the routine monitoring conducted by the area operators to identify any unexpected ingress of slurry or solution and ensure that pumps are running to maintain emergency storage capacity.

The operation measures precipitation and compares the results to design assumptions and revises operating practices as necessary.

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 this Finding/Deficiencies Identified:

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

There are no open waters where WAD cyanide exceeds 50 mg/L WAD cyanide therefore, the operation has not needed to implement measures to restrict access by wildlife and livestock.

WAD sampling is conducted at the TSF spigot, TSF supernatant pond, and the Process Water Pond. Samples at the spigot are taken twice a shift (four samples per day), TSF supernatant pond once a shift (two samples per day) and the process water pond daily. Only two instances were recorded during the audit period where the WAD results measures at the TSF spigot exceeded the 50 WAD ppm limit. An exceedance report, detailing an overview of the operations on the day, conclusions form the investigation and recommendations, are completed for each WAD exceedance at the spigot. Four instances were recorded during the period where the WAD results measured in the Process Water Pond exceeded the 50 WAD ppm limit. The process water pond is located in the security area of the plant and therefore exceedance investigations are not conducted.

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

There has not been any cyanide related wildlife mortality during the recertification period. This was verified with TSF, Environmental Department and process plant personnel interviews as well as review of the daily TSF and process plant inspection reports. The inspection reports prompt the inspector to observe any bird or other animal mortalities and record a corresponding finding on the inspection report.

Akyem Gold Mine does not have heap leach facilities.

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 this Finding/Deficiencies Identified:

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

Water from TSF Cell 2 is treated at the Cyanide Detox Plant and released to the Impacted Water Pond. Water from the Impacted Water Pond is treated at the Water Treatment Plant (Reverse Osmosis Plant) and released to the Environmental Control Pond. The Treatment Plant Operator conducts water quality testing on a daily basis. If the water in the Environmental Control Pond meets the required water quality limits, the water is released into the environment. The water flows into a wetland system before it reaches the Mamang River. The Mamang River is approximately 5 km from the Environmental Control Pond.

The national allowable water quality limits (compliance limit) for cyanide prior to discharge to the environment are:

- WAD Cyanide – 0.6 mg/l;
- Free Cyanide – 0.2 mg/l; and
- Total Cyanide – 1.0 mg/l.

The treatment target limits for the Cyanide Detox Plant treated water is:

- WAD Cyanide – < 0.022 mg/l;
- Free Cyanide – < 0.2 mg/l; and
- Total Cyanide – < 1.0 mg/l.

The operation conducts monthly surface water monitoring downstream of the operation, below the Environmental Control Pond (final control point before discharge) and wetland system. The mine can demonstrate that indirect discharge to surface water do not cause the in-stream concentration of free cyanide to exceed 0.022 mg/l downstream of the operation.

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 this Finding/Deficiencies Identified:

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

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

The design of the TSF, process water ponds and pipelines include the following to minimise and manage seepage:

- The two TSF cells are double lined consisting of a compacted clay liner and a 1.5mm high-density polyethylene (HDPE) liner (fully lined TSF).
- Under drainage system with a Leachate Collection Recovery Sump System (LCRS). Pumps with level sensors to pump any seepage from the sump to the TSF. Sumps are monitored for water quality.
- Pipeline channel from the plant to the TSF is HDPE lined. Any spillage in the channel will either run to the TSF or towards the Event Pond at the plant, dependent on the gradient at the specific section of the pipeline.
- Groundwater monitoring is conducted downstream of the processing plant and the TSF on a monthly basis for amongst others the presence of cyanide in the groundwater.
- The Impacted Water Pond and the Environmental Control Pond are fully lined with HDPE.

The following measures are implanted at the plant:

- Cyanide facilities in concrete bunds.
- Process Water Pond is HDPE lined.
- Event Pond is HDPE lined.
- Leak detection and recovery systems have been installed at the ponds. The pond liners and leak detections systems are inspected as part of the operational inspections.

The Event Pond functions as a spill control pond, collecting all spills exceeding sump capacity from the processing plant via a concrete spill way as well as any overflow from the Process Water Pond.The Event Pond is operated at a minimum level and the standard operating procedure is to pump out the material as quickly as possible in order to have room for any eventuality. Any spillage from the plant will report to the Event Pond via a system of concrete lined canals.

The Botwekrom community is located approximately 1.4 km to the west of the TSF and the Nkwarteng community is located approximately 5.5 km downstream of the TSF. The communities use groundwater for domestic use and livestock watering.

The numerical standard for WAD Cyanide in Effluent Discharge (liquid waste or water discharged into the environment) is 0.6 mg/l WAD as detailed in Ghana Standards Authority, *Ghana Standard*

GS 1212:2019 – Environmental Protection Requirements for Effluent Discharge. The operation conducts monthly groundwater monitoring at boreholes across the site. Borehole sampling is conducted on a monthly basis. None of the results for the period since the previous recertification audit to the current audit where equal to or exceeded 0.6 mg/l WAD cyanide.

Seepage from the operation has not caused cyanide concentrations of groundwater to rise above levels protective of beneficial use

Akyem Gold Mine is an opencast mining operation and therefore does not use mill tailings as underground backfill.

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 this Finding/Deficiencies Identified:

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

Spill prevention is provided for the cyanide sparge and storage tanks, grinding circuit, CIL and CCD.

The sparging tank and cyanide storage tank are positioned on concrete ring beams with an HDPE liner between the tank bottom and the top of the ring beam. The concrete secondary containment floor continues beneath the base of both ring beams. Leak detection system have been installed on the ring beams. The tanks are contained within a dedicated concrete bund. The cyanide storage and sparge tanks have been replaced but there has been no change to the containment facilities for cyanide solution tanks during the audit period.

The grinding circuit is located within a concrete bund.

CIL tanks are also installed on ring beams with a HDPE liner and leak detection systems. The tanks are contained within a concrete bund.

CCD tanks are installed within a concrete bund.

Secondary containments for cyanide 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. except for the Counter-Current Decantation section that relies on the Event Pond for additional secondary containment. The bunds for facilities in the process plant are connected to the Event Pond with concrete lined trenches. There have been no changes to the containment facilities since the previous certification.

Procedures are in place and being implemented to prevent discharge to the environment or any cyanide solution or cyanide-contaminated water that is collected in the secondary containment area. All bund areas are equipped with sump pumps, returning solutions / spillages to process tanks. The GenSets will provide electricity to operate the entire process plant, except for the mills, as well as the pumps at the TSF and at the Cyanide Detox Plant.

In the event of a catastrophic emergency, the CIL bund will overflow to a spill way which will divert the slurry to the Event Pond. The Event Pond is HDPE lined and situated in the plant.

Spill prevention or containment measures are provided for all cyanide process solution pipelines to collect leaks and prevent releases to the environment. Reagent strength pipelines are of the pipe in pipe design and equipped with a leak detection system. Take-off pipes will route any spillage into a bunded area. The pipes are routed over open areas, hence the pipe in pipe system, and concrete trenches draining into the event pond, which is additional secondary containment. Flanges are equipped with flange covers to prevent spraying of the cyanide solution. Cyanide process solution pipelines are located over concrete bunded areas equipped with sump pumps and concrete bunded areas draining to the Events Pond.

Tailings pipelines are placed inside an HDPE lined trench, draining to the Events Pond or back to the TSF, depending on the topography of the section of pipeline route. It was confirmed during the site assessment that cyanide pipelines do not cross or come in close proximity to surface water and therefore do not pose a risk to surface water.

All cyanide tanks and pipelines and associated equipment are constructed of material that are compatible with cyanide and high pH environment i.e., steel for the reagent strength cyanide storage and pipelines and HDPE for the tailings pipeline.

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 this Finding/Deficiencies Identified:

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

QCQA programs have been implemented during the construction of all new cyanide facilities and modifications to existing facilities, including cyanide sparging, unloading, storage, and other cyanide facilities. The QCQA for the operation's cyanide facilities were addressed in the original ICMC certification audit and the subsequent recertification audits, including the current audit.

Since the 2021 recertification audit, the following construction and modifications to cyanide facilities have been undertaken:

- Installation of a new cyanide sparge tank
- Installation of a new cyanide storage tank
- Stage 3 raise for TSF Cell 2

QCQA programs were implemented for the above-mentioned projects.

QCQA documentation observed during the current audit addressed the suitability of materials and adequacy of soil compaction for earthworks, the installation of the liner and the construction of the tanks.

The QCQA for the operation's cyanide facilities were addressed in the original ICMC certification audit and previous recertification audits.

QCQA records for cyanide facilities have been retained and this was addressed in the original ICMC certification and subsequent recertification audits, including the current audit.

The review of cyanide facility construction by appropriate qualified personnel was addressed in the original ICMC certification audit and subsequent recertification audits.

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 this Finding/Deficiencies Identified:

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

The operation has developed written standard operating procedures for monitoring activities, which include the following:

- Water Resources Monitoring Plan:

  The plan sets the minimum requirements to guide water monitoring at Akyem Gold Mine.

- Groundwater Sampling procedure:

  The purpose of the procedure is to establish standard procedures for collection of groundwater samples at Akyem Gold Mine. The standard operating procedure serves as supplement to the *Water Resources Monitoring Plan*. The procedure gives descriptions of equipment and field procedures necessary to collect groundwater from boreholes/wells. The sample locations and frequency of collection are specified in the *Akyem Environmental Monitoring Program Schedule*.

- Surface Water Sampling procedure:

  The purpose of the procedure is to establish standard procedures for collection of surface water samples at the Akyem Gold Mine site. The procedure gives a description of equipment, field procedures, and QA/QC procedures necessary to collect surface water samples from streams/rivers. Sample locations and frequency of collection are specified in the *Akyem Environmental Monitoring Schedule*.

The water monitoring procedures also requires that the sampler conducts inspection at the various sampling stations / vicinity for wildlife mortalities and record if any on sampling field sheet.

Wildlife monitoring as conducted during the daily operational inspections conducted at the process plant, water storage facilities and the TSF.

The sampling and analytical protocols have been developed by appropriately qualified personnel.

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

Sampling points are identified on a sampling map in the *Water Resources Monitoring Plan*.

Sampling conditions and procedures are documented in writing on the groundwater and surface water sampling field sheets. The information captured on the sampling field sheets in includes the field id, sample id, sample data and time, weather conditions, any human influences, presence of livestock / wildlife, any wildlife mortalities.

Monitoring is conducted at frequencies adequate to characterise the medium being monitored and to identify changes in a timely manner. Surface and groundwater sampling is conducted monthly at sampling points at and around the operations. Wildlife monitoring is conducted daily at the process plant, water storage facilities and the TSF and monthly at the ground and surface water monitoring locations.

PRINCIPLE 5 – DECOMMISSIONING

Protect Communities and the Environment from Cyanide Through Development and Implementation of Decommissioning Plans for Cyanide Facilities

Standard of Practice 5.1: Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife, livestock, and the environment.

☒ **in full compliance with**

The operation is

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

Akyem Gold Mine has developed written procedures to decommission cyanide facilities at the cessation of operations. The mine has developed the *Akyem Sustainable Closure and Reclamation Plan*.

The plan includes decommissioning activities for cyanide facilities and includes the following:

- Planned drawdown and removal of residual cyanide reagents.
- Decontamination of equipment (tanks, pipelines, pumps, valves).
- Water balance and quality control mechanisms.
- Final deconstruction and/or reclamation of facilities including tailings impoundments.
- Closure of the tailings dam and process water ponds.

Akyem Gold Mine has compiled a closure schedule illustrating the closure tasks / activities to be undertaken over a period of four months to complete all the decommissioning and decontamination activities. The proposed decommissioning schedule is described in section 2.17.7 of the *Akyem Sustainable Closure and Reclamation Plan*.

Decommissioning procedures will be initiated once ore processing has ceased at the mill complex. Process solutions will continue to circulate through the plant and CCD circuit until gold recovery has been concluded. The Plan indicates that approximately three to four months would be required to complete all decommissioning and decontamination activities.

The *Akyem Sustainable Closure and Reclamation Plan* is reviewed every 3 years or if a major change has occurred, while the closure costing is reviewed on an annual basis.

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 this Finding/Deficiencies Identified:

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

Akyem Gold Mine has developed an estimate of the cost to fully fund third party implementation of the cyanide related decommissioning measures as identified in the site's decommissioning and closure plan.
The closure and rehabilitation cost estimates are reviewed on an annual basis.

The operation has established a financial mechanism approved by the applicable jurisdiction to cover the estimated costs for cyanide-related decommissioning activities as identified in the decommissioning and closure plan. Ghana law requires a cash deposit and a bank guarantee to provide for the estimated cost of the decommissioning and closure activities. The auditor observed evidence of the financial provisions for Akyem Gold Mine.

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 this Finding/Deficiencies Identified:

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

Akyem Gold Mine has developed procedures describing how cyanide related tasks such as unloading, sparging, plant operations, entry into confined spaces, and equipment decontamination prior to maintenance should be conducted to minimise worker exposure.

The operational procedures include the PPE required, pre-work instructions as well as the procedural steps to follow.

There are a series of procedures for unloading and sparging operations and the process is partially automated as well as for equipment decontamination prior to releasing the equipment to maintenance.

The operation runs an online permit system which include entry into confined space and requires atmospheric testing at the work areas prior to entering a confined space.

Various platforms and processes are used to communicate with employees and contractors on safety procedures and to provide them with the opportunity to give their input in developing and evaluating health and safety procedures.

Platforms where workers can contribute include:

- Pre-start meetings are held before the start of a shift during which specific session is provided for information sharing.
- Monthly Health, Safety and Environmental (HSE) meetings are held with employees and long-term contractors. The meeting includes an agenda point to discuss a topic / procedure and the work force has the opportunity to provide feedback during the meeting.
- Safety Stop meetings are held every second month during which learnings from events on site or that occurred at other sites are reviewed and shared with employees.
- Lessons Learned Event are held during which major events are shared with employees and if needed, changes to procedures are initiated.

An incident investigation, in some instances, will identify the need to update a specific procedure relevant to the incident. The investigation team will consist of managerial and non-managerial team members providing input to the investigation.

The initiation of a new procedure will start with a risk assessment on the specific task. The risk assessment team will consist of employees representing the workforce specific to the task. The outcome of the risk assessment will lead to the formulation of the procedure.

Akyem Gold Mine has implemented an Integrated Management System (IMS). In the IMS Document Control Centre, the author / initiator will make the changes to the procedure and pass it on to various reviewers (operators, supervisors, Safety representative) for review. The reviewed procedure is approved by a senior manager.

When a Planned Task Observation is conducted during worker competence assessment, the opportunity exists for the supervisor and worker to provide input should any changes be made to the specific procedure. Such changes will then be actioned as per the above stated procedure review process.

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 this Finding/Deficiencies Identified:

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

Akyem Gold Mine has determined that the optimal pH control for process solutions is 10.5 to prevent the evolution of HCN gas. To help control pH, caustic solution is mixed with the sodium cyanide and lime is added to CV003 to maintain pH in the Carbon in Leach (CIL) circuit. pH probes in the CIL circuit are used to monitor the pH of the solution in CIL tanks 1, 2 and 7. A pH controller is used to adjust the quicklime feed to CV003 to maintain optimal pH level control. Citect alarms are activated in the control room when the pH drops below 10 so that the operator can be notified about the possible presence of elevated HCN gas levels whilst necessary actions to increase lime feed can be done. HCN monitors around the plant are calibrated to alert personnel to HCN gas in the area. Portable pH probes are used to verify pH levels, and in-line probes are routinely calibrated.

The operation has identified areas and activities where workers may be exposed to cyanide in excess of 10 parts per million (ppm) on an instantaneous basis and 4.7 ppm continuously over an 8-hour period and require use of PPE in these areas or when performing these activities. The operation uses ambient and personal monitoring devices to confirm that controls are adequate to limit worker exposure to HCN gas.

A baseline survey was conducted in the process plant to measure the HCN gas, by means of a personal gas monitor, to determine the placement of fixed HCN monitors.

Fixed HCN monitors (10) have been installed in the following areas:

- Reagent mixing area (1)
- Grinding circuit (2) - cyclone feed sump, cyclone cluster (1)
- CIL (3) – CIL tank 1, CCD feed tank, carbon safety screens
- Elution (2) – carbon recovery screen, heat exchangers.
- CCD (2) – tails tank, feed distribution tank.

Eleven personal HCN monitors are available for use in cyanide areas at the process plant, Cyanide Detox Plant and the TSF. There is signage in place in the process plant indicating when personal HCN monitors should be used. This requirement is also included in operational procedures and in the training modules for the process plant. Personal HCN monitors are required when entering the CIL, cyanide sparge and storage tank area, elution Cyanide Detox Plant and at the TSF.

Alarm levels on the fixed monitors and the personal monitors are 4.7 ppm and 10 ppm.

In the event of hydrogen cyanide gas levels trigger the 4.7 ppm and 10 ppm alarm levels, the area will be evacuated. The cause of the event will be investigated by the designated employees wearing the appropriate PPE and personal HCN monitors once the alarm has stopped.

Personal monitors are calibrated every month by the Akyem Gold Plant Industrial Hygienist. All the personal monitors are listed on a spreadsheet indicating the name, serial number, monitoring agents, location used, status (active / inactive), comments, calibration date, due date. A sticker is placed on the back of the monitor indicating the next calibration date.

The sensors of the fixed HCN monitors are calibrated monthly by the Electrical and Instrumentation Department and the unts are services and calibrated by in independent consultant annually. The calibration records observed by the auditor contains the calibration information as recorded by the technician during calibration.

Warning signs have been placed at the cyanide sparge and storage tank area, grinding circuit, CIL, CCD which are the locations where reagent strength cyanide is present, as well as at the Cyanide Detox Plant, TSF and pipelines and WSF, advising workers that cyanide is present, that smoking, open flames and eating and drinking are not allowed, and what personal protective equipment must be worn, as applicable. The signage reinforces messages contained in the induction training and procedures.

In addition, it was observed during the site assessment that food is only consumed in either the canteen (process plant), or dedicated rest areas for the TSF and the Cyanide Detox Plant.

It was observed at the cyanide addition point at the CIL that the high-strength cyanide solution is dyed by the manufacturer.

Showers, low-pressure eye wash stations and dry powder or non-acidic sodium bi-carbonate fire extinguishers are located at strategic locations throughout the operation where cyanide is used. This includes the cyanide sparging and storage tanks area, grinding circuit, top of the CIL, CCD, tails tank area, elution area and the Cyanide Detox Plant.

Fire extinguishers are inspected monthly by the Emergency Response Team (ERT) team, and the inspection date is recorded on the equipment. Annual inspection and maintenance of the fire extinguishers are conducted by an external service provider who conducts a full inspection and pressure testing of the units. Both the monthly internal and annual external inspection and maintenance dates and information is recorded on the equipment.

The safety showers are inspected monthly by the process plant operators and recorded on a card on the equipment. The safety showers are also inspected as part of the daily operational area inspections. Monthly routine inspections and maintenance are performed on the safety showers in accordance with Akyem Gold Mine’s planned maintenance system.

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 pipes is designated. Reagent strength cyanide tanks and distribution pipes are colour coded purple or indicated by signage. Process solution tanks and pipelines are colour-coded and labelled in accordance with the plant’s colour coding system. The colour coding system is communicated to employees as part of the Hazardous Material Handling and Cyanide Awareness training.

The auditors observed the flow direction and identification on the reagent strength pipelines and process pipelines inside the plant as well as on the TSF pipelines.

The sodium cyanide Safety Data Sheets (SDS) and first aid procedures is in the language of the workforce and available in areas where cyanide is managed. The operational language for the mine and plant is English in written and verbal communications.

The SDS for sodium cyanide is available at the cyanide sparging and storage tank, CIL, and emergency spill cabin.

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 need of revising. The Akyem Gold Mine has implemented the *Safety and Sustainability Event Management Procedure* to ensure a consistent approach to classifying, reporting and investigating incidents, determining underlying causes, and communicating lessons learned to prevent recurrences across the organisation. The scope of the procedure applies to health, safety, security, environmental and social performance events. This procedure will also be used in the event of a cyanide incident.

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 this Finding/Deficiencies Identified:

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

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

It was verified during the site inspection that water and emergency showers are available throughout the process plant and at the Cyanide Detox Plant. The cyanide antidote kits (Cyanokit) and resuscitator are kept at the clinic. The cyanide antidote will be administered by the on-site medical doctor or paramedic in the event of a cyanide exposure. Portable medical oxygen with a valved mouthpiece is available at the top of the CIL and in the control room and in the ambulance.

Radios and cell phones are used for communication throughout the plant, at the Cyanide Detox Plant and at the TSF.

The operation inspects its first aid equipment regularly to ensure that it is available when needed and materials such as cyanide antidotes are stored as directed by the manufacturer and replaced on a schedule to ensure that they will be effective when needed.

The spill response cabin in the plant is inspected monthly.

The antidotes are kept at the clinic, under the care of the pharmacist. The cyanide antidotes were observed to be in date and stored at the clinic in accordance with manufacturer recommendations. The pharmacist will order new stock when the current antidotes is close to expiry.

The ERT Team inspects the following first aid equipment:

- Oxygen kit at the CIL and reagent area and the ERT centre on a monthly basis.
- SCBA sets at the plant on a daily basis.

The paramedic on duty inspects the first aid equipment on a quarterly basis and the ambulance is inspected daily.

Akyem Gold Mine has developed cyanide exposure emergency response procedures to respond to cyanide exposures. These include:

- *Akyem Emergency Management Plan*
- *Cyanide Spill Emergency Procedure*
- *Emergency Response Procedure for Handling Chemicals during Clean-ups.*
- *Emergency Response Procedure for Handling Chemicals During Clean-ups*
- *Decontaminate and clean-up cyanide spills.*
- *Cyanide Management Protocol (MediSite).*

The procedures and response plans detail the necessary response to cyanide exposure through ingestion, inhalation and absorption through the skin and eyes.

Akyem Gold Mine has its own on-site capability to provide first aid or medical assistance to workers exposed to cyanide. The operation has a 24/7 on-site clinic approximately 300 m from the plant. The clinic is staffed by two doctors (rotational basis), one paramedic, one occupational health nurse, one general nurse, one laboratory technician, one pharmacist, one radiographer, one occupational health doctor (every 5 weeks).

The mine employs a full-time and fully trained ERT and clinic medical team to effectively respond to cyanide and other incidents at the mine. The ERT Team will respond to cyanide related incidents and transport the patient to the clinic.

The clinic is equipped with PPE, cyanide antidote kits and oxygen. The clinic has trained doctors and nurses and the ERT and the clinic take part in mock drills to test their response to emergency situations.

If subsequently the patient(s) require specialist treatment, after being stabilised, they will be transferred to the Komfo Anokye Hospital in Kumasi. The *Akyem Emergency Management Plan* details the process to follow in the event that a patient needs to be evacuated to advanced off-site medical facility.

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 this Finding/Deficiencies Identified:

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

Akyem Gold Mine has developed emergency response procedures and plans to address accidental release of cyanide and cyanide exposure incidents. These include:

- *Akyem Emergency Management Plan*
- *Cyanide Spill Emergency Procedure*
- *Emergency Response Procedure for Handling Chemicals during Clean-ups.*
- *Emergency Response Procedure for Handling Chemicals During Clean-ups*
- *Decontaminate and clean-up cyanide spills.*

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

a) Catastrophic release of hydrogen cyanide from storage, process or regeneration facilities.
b) Transportation accidents occurring on site or in close proximity to the operation.
c) Cyanide releases during unloading and mixing.
d) Cyanide releases during fires and explosions.
e) Pipe, valve and tank ruptures.
f) Overtopping of ponds and impoundments.
g) Power outages and pump failures.
h) Uncontrolled seepage.
i) Failure of cyanide treatment, destruction or recovery systems.
j) Failure of tailings impoundments, heap leach (dump leach) facilities and other cyanide facilities.

Transport related emergencies outside the mine are the responsibility of the cyanide transporter, Vehrad Transport and Haulage Co. Ltd. which have 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.

The emergency plans and procedures describe 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:*

  The *Akyem Emergency Management Plan* describes the actions to be taken to evacuate the workforce from the incident area. The *Emergency Response Procedure for Community Evacuation During Tailings Failure and Release of Cyanide Solution* provide a clear and structured approach for the safe evacuation of communities in the event of a tailings failure and the subsequent release of cyanide solution into the environment.

- *Use of cyanide antidotes and first aid measures for cyanide exposure:*

  The *Akyem Emergency Management Plan* details the first aid procedures applicable to a cyanide exposure.

- *Control of releases at their source*

  The *Akyem Emergency Management Plan* details the procedures applicable for the control of releases at their source.

- *Containment, assessment, mitigation and future prevention of releases*

  The *Akyem Emergency Management Plan* describes the actions to be taken to immediately contain the release, assess the extent and impact, clean-up and mitigate the release and to investigate the incident and review the procedures / actions taken to prevent future releases.

  The *Emergency Response Procedure for Handling Chemicals During Clean-ups* provides details on the responsibilities for cleanup, the preparation, notification and communication, containment of the spill, clean-up procedures, decontamination, post clean-up procedures, training and review.

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 this Finding/Deficiencies Identified:

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

The operation has involved its workforce and stakeholders, including potentially affected communities, in the cyanide emergency response planning.

The *Akyem Emergency Management Plan* has been developed using cross-functional teams from the process plant, Health, Safety, Environment and Community Relations Departments. This is to ensure that adequate consideration is given to the various impacted departments and ensure that personnel understand and are aware of their roles in an emergency.

The operation involved its workforce in the emergency planning process through monthly safety meetings where procedures and updates, including emergency response, are presented and through mock emergency drills that are conducted periodically to test response procedures for various cyanide exposure scenarios.

The District Fire Department and the Komfo Anokye Teaching Hospital are involved in the emergency response planning at Akyem Gold Mine. The joint emergency preparedness and training of Akyem ERT and Ghana National Fire Service (GNFS) is to provide operational and tactical commanders with a framework to enable them to effectively respond together.

The community relations team maintains contact with community figures and utilises community liaison officers to share relevant information with affected peoples with regards to emergency response planning.

The operation has made potentially affected communities aware of the nature of the risks associated with accidental cyanide releases and consulted with them directly or through community representatives regarding appropriate communications and response. Although potentially affected communities do not play a direct role in emergency response planning, the Newmont Sustainability and External Relations Department personnel maintain the *Emergency Response Procedure for Community Evacuation During Tailings Failure and Release of Cyanide Solution* procedure and list of critical external contacts including chiefs, clergy, and other notable community persons to effectively disseminate information about possible emergency situations and responses. Through the use of community information centres and community liaison officers, Akyem Gold Mine is able to ensure communication flow with relevant stakeholders prior to and/or in the event of an emergency situation.

The main response agencies are the mine's ERT, and the on-site clinic. The on-site ERT and the clinic takes part in mock drills to test their response to emergency situations.

Due to the location and response capacities of local agencies, Akyem Gold Mine will maintain responsibility for emergency response activities within the communities. However, emergency preparedness and response plans are made available to and shared with the Inspectorate Division

of the Ghana Minerals Commission, Ghana Environmental Protection Agency (EPA) as part of their routine site reviews. Local agencies (e.g. Fire and Police) have a statutory responsibility to assist with notification and mobilization of people under direction from Akyem Gold Mine.

The operation engages in communication with stakeholders to keep the emergency response procedures current, where applicable.

The workforce is included in the emergency response planning process through the following:

- Induction and refresher training where they are trained on the use of the emergency response process.
- Through the monthly Safety, Health and Environmental meetings.
- Through the testing of the emergency responses by undertaking the mock emergency drills.

As part of the Memorandum of Understanding (MoU) and joint training with the District Fire Department, any recommendations to improve or amend the *Emergency Response Plan* (ERP) are actioned as part of the ERP updated process.

It is mandatory to submit the mine's ERP to the relevant regulators, the Ghana Minerals Commission and the Ghana Environmental Protection Agency, after an update. The regulators review the document and provide input, if applicable.

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 this Finding/Deficiencies Identified:

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

The cyanide-related elements of the Akyem Emergency Management Plan detail the following:

a) *Designate primary and alternate emergency response coordinators who have explicit authority to commit the resources necessary to implement the Plan*

The *Akyem Emergency Management Plan* details the roles and responsibilities for the implementation of the Plan and provides detailed responsibilities and actions to oversee the operational response and wellbeing of people involved in or affected by an incident / issue while interfacing with the Rapid Response Team. The General Manager is the designated Site Response Team (SRT) Leader and has the authority to act in any emergency event at Newmont Akyem Gold Mine. There is always a nominated person in the role of General Manager.

b) *Identify Emergency Response Teams*

The ERT Crew Teams are identified by name, department and job description in a table displayed on notice boards and at the ERT centre.

c) *Require appropriate training for emergency responders*

The *Akyem Emergency Management Plan* states that Akyem Gold Mine will maintain a competent and readily activated volunteer emergency response team that comprise of full time Newmont employees and contractor volunteers.

It is further stated that Newmont Akyem Gold Mine will provide the necessary training and resources to ensure personnel, contractors and stakeholders are aware of their roles and responsibilities in the *Emergency Management Plan*.

d) *Include call-out procedures and 24-hour contact information for the coordinators and response team members*

The Security Control Centre (SCC) is in place to receive calls and notify the ERT of emergency situations as reported via phone and radio. The number for the SCC is communicated to all employees and contractors via the induction training. The numbers are also displayed on the employees' access card which are always kept on the person. In addition, the emergency number is displayed on notice boards.

e) *Specify the duties and responsibilities of the coordinators and team members*

Duties and responsibilities of the co-ordinators and the team members are specified in the *Akyem Emergency Management Plan* and the *Cyanide Spill Emergency Procedure*.

f) *List emergency response equipment, including personal protection gear, available on-site*

The *Akyem Emergency Management Plan* lists the available emergency response equipment and personal protective gear available on site.

g) *Include procedures to inspect emergency response equipment to ensure its availability*

Emergency response equipment is inspected to ensure availability.

h) *Describe the role of external responders, medical facilities and communities in the emergency response procedures?*

Local agencies such as Fire and Police will be mobilised under direction of Akyem Gold Mine in the event of an emergency. The *Akyem Emergency Management Plan* includes contact numbers for local police and the National Disaster Management Organisation (NADMO).

The operation confirmed that outside entities included in the *Emergency Response Plan* are aware of their involvement and are included as necessary in mock drills or implementation exercises. A Memorandum of Understanding has been signed with the Ghana National Fire Service (GNFS) in the Birim North District to effectively respond together in a major emergency situation that need collaborative efforts of both agencies without undue delays. Akyem Gold Mine has an on-site clinic that are aware of the potential need to treat patients for cyanide exposure and the operation has assured that the medical facility has adequate, qualified staff and equipment and expertise to respond to cyanide exposures.

Standard of Practice 7.4: Develop procedures 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 this Finding/Deficiencies Identified:

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

The *Akyem Emergency Management Plan* includes procedures and contact information for notifying management, regulatory agencies, outside response providers and medical facilities of the cyanide emergency.

The Plan provides the actions to be taken by the Community Relations Advisor to communicate with affected communities regarding cyanide related incidents and any necessary response measures. The Environmental Manager will arrange for notification of regulators (Environmental Protection Agency, Minerals Commission) and community leaders (Chiefs, District Assembly, Youth Group Leaders). It is further stated in the *Cyanide Management Plan* that the Sustainability and External Relations Team (S&ER Team) is responsible for the communication with the affected communities in the event of an emergency.

Through the use of community information centres and community liaison officers, Akyem Gold Mine is able to ensure communication flow with relevant stakeholders prior to and/or in the event of an emergency situation.

Any and all media enquiries directly related to Newmont's Akyem Gold Mine operations, its business and or associated companies, including the safety and wellbeing of people working for Akyem Gold Mine must be referred directly to the SRT Leader. The SRT Leader is responsible for ensuring that the enquiry is dealt with as per the *Media Management Plan* template available in rapid response.

Newmont Corporation has compiled and implement the *Safety and Sustainability Event Management Procedure* to ensure a consistent approach to classifying, reporting and investigating Safety and Sustainability events, determining underlying causes, and communicating lessons learned to prevent recurrences across the organisation. It is required, in terms of the procedure, that the operations must share all cyanide incidents with the Newmont Enterprise Group Head. The Corporate team is responsible for reviewing all cyanide related events to determine if notification to the International Cyanide Management Institute (ICMI) is required per the "Significant Cyanide Incidents" definition as defined in the ICMI's *Definitions and Acronyms* document.

It is further stated in the procedure that Newmont has committed to notify the ICMI within 24 hours of any significant cyanide incidents. All cyanide related events will be reviewed by the Corporate Safety and Sustainability Event Reporting function, in collaboration with the Cyanide Management Working Team as appropriate, to make a determination on the requirement to notify the ICMI.

No significant cyanide incidents have occurred during the current recertification audit period.

Standard of Practice 7.5: Incorporate remediation measures and monitoring elements into response plans and account for the additional hazards of using cyanide treatment chemicals.

The operation is

☒ **in full compliance with**

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

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The ERP and associated procedures describe the remediation measures as appropriate for the likely cyanide scenarios.

Ferrous sulphate will be used to neutralise CN spills as per the *Cyanide Management Plan* and the procedure *Neutralization of Cyanide-bearing solution and slurry using Ferrous Sulphate*. It is stated in the procedure that the ferrous sulphate will be spread over the surface of the solution/slurry and that it should be mixed with the spilled cyanide to form cyanate (reaction will form a “Prussian” blue colour).

It is required that periodic samples are taken to verify that the cyanide has been neutralised. The procedure provides neutralisation guidelines in terms of the amount of ferrous sulphate that should be added in terms of the volume of the spill (both slurry and solution spills).

The neutralised contaminated soil must be collected and transferred to either the grinding circuit or the TSF for disposal. It is required that, after the initial contaminated soil is removed, samples should be taken and contaminated soil be removed until the samples indicate no more cyanide contamination (undetectable).

Contaminated tools and other equipment used in incident response are required to be washed in an area where water will enter the process plant circuit, as per the procedure *Neutralization of Cyanide-bearing solution and slurry using Ferrous Sulphate*. Soil remediation should continue until the WAD cyanide levels in the soil is below detection limit.

Akyem Gold Mine will provide alternate drinking water if required in the event that a release has impacted groundwater supplies. The current practice on-site is to store bottled water for such contingencies.

It is stated in the *Neutralization of Cyanide-bearing Solution and Slurry using Ferrous Sulphate* procedure and the *Cyanide Spill Emergency Procedure* that ferrous sulphate must never be applied directly to or near areas where it has the potential to enter water courses (storm water drains, unlined ponds, etc.).

Environmental monitoring required as a result of a cyanide spill will be done in accordance with the requirements of the surface and groundwater sampling procedures and at locations indicated on the surface-groundwater monitoring locations map.

It is stated in the *Akyem Emergency Management Plan* that process personnel will take solution and / or soil samples and send to the lab to test for WAD cyanide concentrations and remediate the impacted area until cyanide sample results show no detectable WAD cyanide or less than 0.01 ppm.

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 this Finding/Deficiencies Identified:

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

The operation reviews and evaluates the cyanide-related elements of its emergency response plan for adequacy on a regular basis.

The *Akyem Emergency Management Plan* is reviewed every year or in the event of a major change, or as a result of a drill or occurrence. Operational procedures that supplement the *Akyem Emergency Management Plan* are reviewed every 2 years.

Provisions are in place to evaluate and revise the *Akyem Emergency Response Plan* after any cyanide-related emergency requiring its implementation. No cyanide related incidents occurred during the current recertification period and therefore no review and revision of the emergency response procedures where required as a result thereof.

Mock cyanide drills are conducted periodically as part of the *Akyem Emergency Response Plan* and associated emergency procedures evaluation process. Cyanide related mock drills are conducted twice a year. Drills are conducted for both man-down scenarios and spills. Mock drills involve the ERT and clinic personnel. Plant employees participate in the evacuation portion of the drills but have no role in the emergency actions.

PRINCIPLE 8 – TRAINING

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

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

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 8.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

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

The Akyem Learning and Development (L&D) department is responsible for the development and presentation of training programmes at the mine.

All persons entering the plant receive process plant induction training, including cyanide awareness and cyanide hazard recognition and emergency response.

The instructor-led Cyanide Safety Awareness module is presented to all new plant and TSF personnel prior to working at the plant and the TSF.

The cyanide awareness training modules addresses cyanide hazards, such as the forms of sodium cyanide present on site, the health effects of cyanide, the symptoms of cyanide poisoning, the exposure pathways and the cyanide first-aid procedures.

The Process Safety Annual Refresher programme is presented to plant and TSF employees working in the process plant, upon return from annual leave and includes the Cyanide Refresher Training module.

The Africa Training Matrix identifies the training and competencies required for each job description at the processing plant, TSF. The training matrix indicates mandatory training and required training. Mandatory training includes Process Plant induction, chemical awareness and cyanide awareness that must be undertaken before the employee starts working at the plant. Required training, e.g. working at height, confined space, etc. is undertaken before the employee conducts the specific task.

Training records are retained electronically on the Learning Management System (LMS). It is legally required in Ghana to maintain training records for 10 years after the employee has left the employment of the mine.

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 this Finding/Deficiencies Identified:

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

The Africa Training Matrix identifies the training and competencies required for each job description at the processing plant, TSF. The training matrix indicates mandatory training and required training. Mandatory training includes process plant induction, chemical awareness and cyanide awareness that must be conducted before the employee starts working at the plant. Required training, e.g. working at height, confined space, etc. is undertaken before the employee conducts the specific task. Required training is specific to the normal tasks that will be performed for a specific job. Reagent management, CCD operations, event pond operations, gold room operations, control room operations is grouped under required / elected training to be completed by employees working in the specific areas.

The operation trains workers to perform their normal production tasks, including unloading, mixing, production and maintenance with minimum risk to worker health and safety and in a manner that prevents unplanned cyanide releases. This includes undertaking formal training in specific Standard Task Procedures (STPs) applicable to an employee's work area.

Personnel undertaking work within cyanide areas must complete the mandatory inductions and training prior to entering the areas. Once these have been completed, Akyem Gold Mine provides a peer-to-peer training system for employees supported by training modules and formalised competency assessment. Workers need to be assessed as competent prior to working without direct supervision.

The training elements necessary for each job involving cyanide management are identified in training materials. Training elements specific to the process area are identified within area-specific training sessions and plans. The auditor observed the training package for the Akyem Process Reagent Operation (present) covering all the elements of working in the reagents area, including cyanide.

Appropriately qualified personnel provide task training related to cyanide management activities. Peer to peer training is provided by operators deemed competent in the area or task. This is supported by training personnel that provide theory and practical training. The trainers are appropriately qualified in the subject matter and have the necessary training credentials.

Workers are trained prior to working with cyanide.

Akyem Gold Mine has a structured competency assessment process that includes knowledge assessment of theory elements and workplace assessment for demonstration of practical elements.

The operation evaluates the effectiveness of cyanide training by means of Planned Task Observations (PTOs) that are performed on all relevant procedures annually to evaluate the effectiveness in the training of the various procedures. PTO are conducted on employees to ensure a continual understanding of a specific task. The PTO observer checks the various steps as stipulated in the Job Procedure attached to the PTO form.

The main driver to initiate refresher training is the outcome of a PTO performed by the supervisors. If deficiencies are identified, the employee will receive refresher training specific to the task.

Records are retained throughout an individual's employment documenting the training received. The records include the names of the employee and the trainer, the date of training, the topics covered, and if the employee demonstrated and understanding of the training materials.

The PTOs stipulate the name of the employee assessed, the observer's name, the date of the assessment, the task observed, and the result of the assessment.

Standard of Practice 8.3: **Train appropriate workers and personnel to respond to worker exposures 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 this Finding/Deficiencies Identified:

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

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

The Cyanide Safety Awareness training module is presented to all employees, contractors. The induction presentation includes information on cyanide identification and use as well as emergency response and first aid measures.

This training is further reinforced through undertaking mock emergency drills.

Site cyanide response personnel, including unloading, mixing, production and maintenance workers, are trained in decontamination and first aid procedures as part of the Process Plant Induction Module, which is refreshed annually.

Members of the ERT receive additional training on Cyanide Emergency Management conducted by the ERT Coordinator on an annual basis.

No community members, local responders or off-site medical providers will respond to emergencies related to cyanide.

On-site emergency responders are familiar with those elements of the *Akyem Emergency Management Plan* related to cyanide as presented in the mine and plant induction training and refresher training sessions.

Refresher training for response to cyanide exposures and releases is conducted annually as part of the plant induction training refresher.

Records are retained documenting the cyanide training, including 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.

Training records are maintained in the LMS system.

PRINCIPLE 9 – DIALOGUE

Engage in Public Consultation and Disclosure

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

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

Summarise the basis for this Finding/Deficiencies Identified:

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

The operation provides the opportunity for stakeholders to communicate issues of concern regarding the management of cyanide via the following forums:

- Quarterly community meetings with the nine host communities. The meetings with the host communities included a wider range of topics relating to the mine operations, including cyanide management.
- Annual engagement with communities on the transport route. Cyanide management practices are discussed with the communities on route
- Ad hoc meetings with any of the communities to discuss a specific issue.

These meetings provide an open forum for the attendees to ask questions and raise concerns.

Stakeholder groups consist of community leaders, youth associates, religious leaders, women groups, local authorities.

Permanent community information centres have been established in Adausena and Afosu, New Abrim, Hweakwae communities and are manned by two community liaison officers. Community members can engage with the community liaison officers if they have any concerns regarding cyanide management at Akyem Gold Mine.

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 this Finding/Deficiencies Identified:

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

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 presentation for cyanide and chemical awareness, including information on transportation and properties of cyanide, is presented to the communities during the community engagement sessions. The presentation is in the local language.

Akyem Gold Mine has prepared laminated posters that are posted on community notice boards to provide information on the identification of cyanide facilities and transportation vehicles. The posters include pictures of solid cyanide, PPE used during cyanide sparging PPE, cyanide sparging area, other hazardous chemicals to be aware of on site, escort vehicle leading cyanide truck to Akyem Gold Mine site.

Copies of the Community Sensitization Cyanide Transportation presentation, used during the community engagement sessions are distributed to the local communities.

Akyem Gold Mine has a regular time slot (every two weeks) on the local radio station during which mine related topics are discussed. On 4 October 2024, cyanide management was discussed. After a panel discussion, the public can phone in with questions which are then answered on air.

The public announcement system in the communities is used to provide information on cyanide management and the risks that the communities should be aware of.

The presentation done during the community engagement meetings are presented in the local language.

In the event of a major incident, the Sustainability and External Relations Department will reach out to key community stakeholders such chiefs of the local communities to communicate details of such an incident.

Newmont reports on cyanide management, at all operations, publicly on in the Newmont Sustainability Report available the company website. The information in the Sustainability Report is provided at a high-level per site stating the number of incidents distinguishing between:

- Releases off site requiring response or remediation
- Adverse effects on human health
- Adverse effects to the environment
- Requiring reporting under applicable regulations
- Exceedances of applicable limits of the Cyanide Code
- Impacts to biodiversity.

In the event of a major incident, the Sustainability and External Relations Department will reach out to key community stakeholders such chiefs of the local communities to communicate details of such an incident.

It was confirmed to the auditor during interviews with various operational and ERT personnel that Akyem Gold Mine did not have any confirmed cyanide release or exposure incidents in the period since the last recertification audit.

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