

***INTERNATIONAL CYANIDE
MANAGEMENT INSTITUTE***

***Cyanide Code Compliance Audit
Gold Mining Operations***

Recertification Summary Audit Report

***Newmont Ghana Gold
Ahafo Gold Mine
Ghana***

6th – 11th March 2011

Name of Operation: Ahafo Gold Mine

Name of Operation Owner: Newmont Ghana Gold Limited

Name of Operation Operator: Newmont Ghana Gold Limited

Name of Responsible Manager: Mr. Johan van Huyssteen, Process Manager

Address: C825/26 Lagos Avenue
East Legon
ACCRA

Country: Ghana

Telephone: +233 30 701 1852 x 51806

Fax: +233 24 439 1484

E-Mail: Johan.VanHuyssteen@Newmont.com

Location detail and description of operation:

The Ahafo Gold Mine, owned and operated by Newmont Ghana Gold Limited (NGGL), is located in the Brong Ahafo Region of Ghana, approximately 300 kilometres northwest of the capital city, Accra, and 107 kilometres northwest of the city of Ashanti Region capital of Kumasi. The mine is 40 kilometres south of the Brong Ahafo regional capital, Sunyani. Access to the mine is by air from Accra to Sunyani and then by road to the mine, or by road from Accra via Kumasi. The Ahafo Gold Mine poured its first gold on July 18, 2006 and commenced commercial production in August 2006. Ahafo received its initial Cyanide Code Certification in March 2008.

The mine currently operates three pits with a fourth pit undergoing a layback to expose future reserves. The process plant consists of a conventional mill and carbon-in-leach circuit. Ore is recovered from the pits using conventional surface mining techniques and is transported to a crushing, grinding and milling circuit. Ore processing consists, primarily, of carbon-in-leach cyanidation, followed by elution, and refining for gold recovery. Tailings remaining after completion of the processing and precious metals recovery are conveyed by pipeline to a counter-current decantation (CCD) plant where the tailings are rinsed with decant return water to reduce WAD CN concentrations to less than 50ppm WAD CN prior to final disposal. After the CCD circuit, the tailings are pumped, via a lined tailings trench, to an engineered, lined tailings storage facility (TSF) for permanent disposal. Tailings water is recovered from a decant pond, and recycled back to the process facilities for re-use. The entire process and tailings facilities are designed as a zero-discharge operation.

Sodium cyanide is supplied to the mine by Orica from its Yarwun manufacturing plant in Queensland, Australia. Cyanide in solid briquette form is packaged in one tonne plastic bags within plywood boxes and transported by sea in shipping containers to the port of Takoradi in Ghana. From Takoradi the containers are transported by road to Tarkwa by Barbex, which is subcontracted to Orica, where the cyanide briquettes are transferred into iso-containers at the Orica cyanide repackaging facility, operated by Barbex. Cyanide is delivered to the Ahafo mine, in dry briquette form, in truck-mounted iso-containers, for solid to liquid sparging. The cyanide mixing facility at Ahafo is specifically designed to handle the sparging operations.

Sparging is a closed circuit mixing process that passes pH adjusted water from a mixing tank through the iso-container in a continuous circuit until 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. All pipelines used for the transfer of cyanide to the process plant or within the process plant are either double piped or installed above containment facilities to prevent escape of leaks or spills to the surrounding surface.

Auditor's Finding

This operation is

X in full compliance

- in substantial compliance *(see below)
- not in compliance

with the International Cyanide Management Code.

The operation experienced a significant cyanide event during the previous three year audit cycle, which is discussed in the Detailed Audit Report and summarised below.

During a 3 day maintenance shutdown, a series of events led to the overflowing of the plant event pond which resulted in a spill of process water out of containment and into a run off water system. Key causes for the chain of events included:-

- the event pond level was higher than normal during the shutdown;
- instrumentation level indication and alarms on the process water pond failed due to solid build-up resulting from the solids levels in the thickener overflow exceeding design criteria;
- process water overflowed into the event pond;
- operational freeboard was not maintained during the plant shutdown;
- there was not a plant shutdown procedure in place;
- there was a rainfall event of 50mm during the period;
- pumps to the tailings line were down for maintenance on a T-piece, which prevented emptying of the pond;
- alarms in the control room were ignored due to shutdown status;
- in the case of event pond overflow, the emergency procedures were shown to be inadequate;
- sampling and inspection of downstream areas included the wrong area and environmental catchment dam (ECD), possibly due to inadequate mapping / procedures / training; and
- emergency sample values may have been inaccurate due to the equipment and analytical method not being suitable for low level analyses.

In line with ICMI reporting requirements, the event was reported to ICMI as a significant cyanide incident. Thorough and detailed investigations were undertaken and this resulted in a series of changes, improvements and modifications being made to procedures, systems, processes, training, facilities, and equipment by the site operations.

The auditors undertook a careful and detailed review of the documentation relating to the incident and included consideration of the incident in their field inspections. This information was summarised in a table of events sequence, causes, mitigation actions and links to the Cyanide Code, which is included in the Detailed Audit Report. This summary is based upon that table.

The auditors are satisfied that the responses and corrective actions have appropriately responded to the chain of events which led to the incident and that the risk of reoccurrence of this type of event has been significantly and markedly reduced. Examples of corrective actions and improvements include new and revised normal and emergency procedures, new and revised risk assessments, additional monitoring and measurement equipment, new interlocks, additional sampling mapping, additional pumps, and prioritised power management. The mitigations and improvements have resulted in improved compliance to Standards of Practice 4.1; 4.3; 4.7; 4.8; 4.9; 7.1; 8.2; 9.1; 9.2 and 9.3.

Audit Company: Eagle Environmental

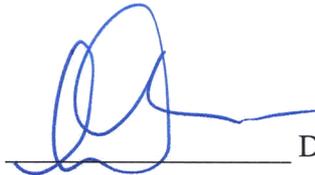
Audit Team Leader: Arend Hoogervorst

E-mail: arend@eagleenv.co.za

Names and Signatures of Other Auditors:

Name : Dawid M. L Viljoen

Signature

 Date: 13/6/11

Dates of Audit: 6th – 11th March 2011

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

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

Ahafo Gold Mine

Facility

Signature of Lead Auditor

Date



13/6/11

Ahafo Mine

Signature of Lead Auditor

29th May 2011

Auditor's Findings

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

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

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 1.1**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

There is a Sodium Cyanide Purchase and Sale Agreement in place between the seller, Orica Australia Pty Ltd, and the Ahafo mine. Orica's Yarwun facility, which supplies the sodium cyanide, was fully recertified as a producer on 17th March 2010 and its Ghana bulk to bag facility was recertified on 8th March 2011. The Orica cyanide bulk to bag facility in Tarkwa, Ghana, is operated by Barbex Technical Services on behalf of Orica and is classified as a production facility. Solid briquette cyanide is purchased directly from the producer, Orica, and the shipped sea containers from Orica are unloaded and the briquettes repacked in iso-tainers in the Orica Bulk to Bag production facility. The contract specifies that the cyanide briquettes are delivered in iso-tainers.

2. TRANSPORTATION: Protect communities and the environment during cyanide transport.

Standard of Practice 2.1: Establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 2.1**
 not in compliance with



Basis for this Finding/Deficiencies Identified:

The contract is with the producer for supplying cyanide and covers the production as well as the full transportation chain from the plant in Yarwun to the site in Ahafo. Section 12 of the contract covers the responsibilities and requirements for transport, packaging, labelling, safety, security, unloading, emergency response (spills prevention and clean-up), route evaluation and assessments, training, community liaison, emergency response resource access and availability.

Standard of Practice 2.2: Require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

X in full compliance with

The operation is in substantial compliance with Standard of Practice 2.2

 not in compliance with

Basis for this Finding/Deficiencies Identified:

The Contract requires that the seller shall comply with the ICMC production and transportation principles and standards of practice as published and amended from time to time by ICMI. Chain of custody documentation was sighted by the auditors. The Orica West Africa Supply chain has been audited and was certified fully ICMI complaint on 19th May 2011.

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.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 3.1**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

No solid cyanide is stored on site as a sparge process is used to transport solid cyanide to the site and to make up liquid cyanide. The cyanide sparging and storage tanks are equipped with ventilation pipes at the top. The offloading, mixing and storage facilities

were designed and built with materials appropriate for use with cyanide and are located in concrete bunds away from people and surface waters. There are no incompatible materials nearby. Materials specifications that are identified on the drawings are relevant Australian Standards. These standards cover materials for storage tanks. Labelling of the reagent mixing tanks is in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (generally abbreviated as the Australian Dangerous Goods Code). This Code covers the proper labelling of dangerous goods and is widely used for labelling of static storage. The reagent mixing area is constructed on concrete pads to prevent any discharges to the sub surface. The concrete pad on which the vehicle carrying the Isotainer parks during sparging, is provided with containment bunding with all surface run-off directed into containment bunds that enclose the reagent tanks. The cyanide sparge tank has a high level alarm at 90%, and high-high level alarm at 95%, interlocked with the cyanide sparge pump. The sparge tank is equipped with an overflow pipe to the cyanide storage tank. The pre-fill operation includes interlocks with the tank level, allowing addition of pre-fill water. The operation is fully automated as per the make-up procedure. The cyanide storage tank is equipped with ultrasonic level detection with a high level alarm at 75% and a high high alarm at 92.5%, interlocked at 92.5%, tripping the transfer pumps from the sparge tank. Field level, display instruments are available and are confirmed by the process operator.

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.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 3.2**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

Use is made of a sparging system where the iso-tainer is re-used for transporting dry solid cyanide briquettes and remains in the closed loop. The sparging procedure is detailed, spelling out PPE requirements, use of a buddy in the process, and clearly sequenced to prevent and manage spillages and accidental releases. The Mine Emergency Response Team is present during the sparging operation and provides for emergency response in case of any emergencies arising from the sparging operation.

4. OPERATIONS: Manage cyanide process solutions and waste streams to protect human health and the environment.

Standard of Practice 4.1: Implement management and operating systems designed to protect human health and the environment utilizing

contingency planning and inspection and preventive maintenance procedures.

X in full compliance with

- The operation is** in substantial compliance with **Standard of Practice 4.1**
- not in compliance with

Basis for this Finding/Deficiencies Identified:

The plant has 307 operating procedures (Standard Operating Procedures (SOPs), Standard Task Procedures (STPs) and checklists) covering the cyanide facilities containing more than 0.5ppm WAD cyanide. The engineering procedures are updated within the Ellipse Planned Maintenance System (PMS). The Tailings Storage Facility (TSF) operating parameters are contained in the Ahafo Tailings Management Plan of 2008, and operating and maintenance procedures are based on the Plan. Quarterly operations review meetings are held and operating parameters reviewed and changed if required. The Golder Associates external TSF audit of December 2010 concluded that the operating risks have been appropriately identified and mitigated, and that management reacts on all recommendations made to control risk. No high risks were observed with respect to the design of the facility. The in-plant event pond operating scenarios specify a 1:25 year storm event as well as a thickener failure at the same time. The TSF freeboard is surveyed monthly and the supernatant pond checked daily. All ponds are covered by daily inspections and level indicators are fitted to all ponds which show and alarm on the CITECT in the control room. A procedure states that the event pond must be operated at the lowest possible level. Routine daily, weekly, shiftly inspections, and checklists for proactive and reactive management on the plant and TSF were sampled over the three year period to check the effectiveness of systems.

An Ellipse Planned Maintenance System (PMS) is in place and functioning and records (hard copy and on-line) were sampled and checked. Tank thickness testing for high strength cyanide tanks is done at least annually (records checked over the past three years) and has been done 6 monthly since 2010. Corrective actions are requested via work orders and followed up in the Ellipse system. The plant has a change management procedure covering health, safety and environment in place and examples of exercises were sampled. Emergency power is required on the CCD(counter-current decantation) feed pumps, tails pumps, sump pumps, and events pond pumps. Emergency generator maintenance is done under contract and testing of generator system is done during shutdowns.

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

X in full compliance with



- The operation is** in substantial compliance **with Standard of Practice 4.2**
- not in compliance with
- not subject to

Basis for this Finding/Deficiencies Identified:

A Cyanide Control and Optimisation Strategy is in place and test results for different ore types for the Apensu and Awonsu Mill feed samples were sighted. A metallurgical study considering cyanide requirements indicated that no major variation in cyanide consumption was seen. A weekly meeting is used to plan ore ratios, and efforts are made to keep ratios constant. Weekly bottle roll tests are conducted at different cyanide concentrations and plotted against recovery. Optimisation strategies include evaluating gravity recovery and oxygen injection to improve recovery. The OCM 5000 on line cyanide monitor is used to determine cyanide concentrations in the No. 1 CIL tank, Density control to the CIL is the main strategy to reduce cyanide consumption. Free cyanide is monitored in the CCD tails tank for free cyanide monitoring purposes and manual titrations are used as back up for the OCM 5000 and to determine the free cyanide in the final CIL tank. A control to limit the maximum flow of cyanide to the leach is in place to prevent overdosing, in case of measuring equipment failure.

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

X in full compliance with

- The operation is** in substantial compliance with **Standard of Practice 4.3**
- not in compliance with

Basis for this Finding/Deficiencies Identified:

The operation uses probabilistic water balance modelling based upon the Goldsim computerised software. The TSF is operated with a minimum freeboard of 1.2m plus a 1:100 year, 24 hour storm event below the spillway and the events pond model design storm event uses a 1:25 year, 24 storm event. The models used historic rainfall data from the region where the mine is, data from before the plant was built obtained from the Sunyani weather station, and the latest data from the site's current weather station and TSF. With regard to other solutions losses, TSF and events pond is lined, and retained interstitial water is calculated in model. Daily pond inspections, CCTV camera and ultrasonic level indicators showing on the CITECT system are in use, level alarms are set and back-up high level sensors and independent local alarms are also used. The probabilistic water balance model includes the impact of a power outage. The pond will overflow in the case of a thickener failure (the single largest tank in the circuit) as well as the 1:25, 24 hour storm event, only if no pumping capacity is available. However, the

system is equipped with a standby pump (events pond) and a standby pump on the tailings tank, and prioritised emergency power is supplied by mine diesel generators.

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

X in full compliance with

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

 not in compliance with

Basis for this Finding/Deficiencies Identified:

TSF spigot WAD cyanide results for 2008, 2009, 2010 were less than 50 ppm WAD CN (mostly between 20 and 30 ppm) with some excursions. CCD (counter-current decantation) section down time appears to be the main reason for exceedances in the WAD cyanide. Formal investigation reports into the excursions reviewed included implemented remedial actions. The process water pond receives the CCD (counter-current decantation) overflow water and decant return, and could contain more than 50ppm WAD cyanide. The WAD cyanide results sighted varied between 26 and 55ppm but were generally between 30 and 40 ppm. The process water pond surface is covered with bird balls to restrict birds from access to the pond. The pond is inside the fenced mine and plant area and no other wildlife has access to the pond. Wildlife inspection reports for the 3 years confirmed that no mortalities had been recorded.

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

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.5**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

No direct discharge to surface water takes place. The Environmental Control Dam (ECD) WAD cyanide values for sampled data for 2009 to 2011 are below the limits of detection. Surface water down stream of the ECDs is sampled and analysed for WAD cyanide and all values show below levels of detection. Monitor wells are placed below and around the TSF, and boreholes are sampled for groundwater cyanide contents. The TSF is equipped with under drains returning TSF seepage to the process water circuit. Seepage from surrounding area enters the stream into ECD 4 and is monitored for cyanide although all cyanide values were shown to be below detection limits. Down stream samples are taken from the ECD 4 and the stream and analysed for cyanide with all cyanide values showing

below detection limits. No physical evidence of indirect discharges to surface water was observed. The process water ponds and events ponds are lined to prevent seepage from entering the storm water system flowing into the ECD. Borehole monitoring is done around the area and pond liners are inspected as part of the operational inspections.

Standard of Practice 4.6: Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of ground water.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.6**
 not in compliance with

Basis for this Finding/Deficiencies Identified

Process water ponds and events ponds are fully lined to prevent seepage. Leak detection and recovery systems are installed on the process water and Event Ponds. Pond liners and leak detection systems are inspected regularly as part of the operational inspections system. Borehole monitoring is done around the plant area.

Monitor wells are placed below and around the TSF, and boreholes are sampled for groundwater cyanide contents. The TSF is equipped with under drains returning TSF seepage to the process water circuit. Finger drains are installed to dewater the TSF walls. The TSF is fully lined with a clay liner and partially lined with a synthetic liner in the ponding areas. Secondary under drains are installed under the synthetic liner.

Potential beneficial uses for groundwater include drinking water. There are no jurisdictional Ghana EPA standards for ground water cyanide levels. The mine uses 0.07mg/l free cyanide as per the Ghana drinking water standard. No exceedances of the 0.07mg/l free cyanide were detected in results studied from January 2008 to January 2011.

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

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.7**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

Site drawings indicate standard ring beam drainage arrangements and details showing HDPE liner detail with leak detection, applying to all ring beams on the plant. CIL tanks are placed on ring beams and equipped with an impervious HDPE liner. The lean eluate tank, treated water tank, and pregnant solution tank foundations are equipped with a

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

X in full compliance with

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

 not in compliance with

Basis for this Finding/Deficiencies Identified:

A site wide, water resources monitoring plan describing monitoring activities is in place. Sampling and analytical protocols were developed by consultant hydro-geologists and reviewed by the site environmental manager who is a qualified science laboratory technologist with 14 years' experience. Sampling points are identified on a sampling map and procedures are in place which cover how and where samples should be taken, sample preservation techniques, chain of custody procedures and which cyanide species are to be analysed. Boreholes are placed and sampled upstream and downstream of the plant. Boreholes are sampled monthly, surface waters monthly, and daily wildlife mortality inspections takes place.

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 and livestock.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 5.1**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

A reclamation and closure plan, which includes cyanide decommissioning procedures, is in place. The procedures cover low, as well as high, strength cyanide solution sections. The procedures require disposal of cyanide solutions to the TSF and rinsing to where cyanide solution in rinse water is less than 0.5mg/l WAD cyanide. A decommissioning schedule is included in the plan and covers all process components from Mill to the TSF. Review is required every 3 years.

Standard of Practice 5.2: Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

X in full compliance with

- The operation is** in substantial compliance with **Standard of Practice 5.2**
- not in compliance with

Basis for this Finding/Deficiencies Identified:

A site estimates document was sighted which includes a decommissioning breakdown. A table in the document, entitled “Facilities demolition / decommissioning”, includes a column for decommissioning/cleaning and detoxification, which represents 20% of the installation cost. This estimate is reviewed annually. A letter of credit has been issued by Newmont, through JP Morgan Chase Bank in Chicago Illinois, USA, to the Ghana Environmental Protection Agency which covers the cost of closure and cyanide decommissioning.

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 or control them.

X in full compliance with

- The operation is** in substantial compliance with **Standard of Practice 6.1**
- not in compliance with

Basis for this Finding/Deficiencies Identified:

The plant has 307 operating procedures (Standard Operating Procedures (SOPs), Standard Task Procedures (STPs) and checklists) covering the cyanide facilities containing more than 0.5ppm WAD cyanide. The engineering procedures are updated within the Ellipse Planned Maintenance System (PMS). The Tailings Storage Facility (TSF) operating parameters are contained in the Ahafo Tailings Management Plan of 2008, and operating and maintenance procedures are based on the Plan. Quarterly operations review meetings are held and operating parameters reviewed and changed, if required. The in-plant event pond operating scenarios specify a 1:25 year storm event as well as a thickener failure at the same time. The TSF freeboard is surveyed monthly and the supernatant pond checked daily. All ponds are covered by daily inspections and level indicators are fitted to all ponds which show and alarm on the CITECT in the control room. A procedure states that the event pond must be operated at the lowest possible level. Routine daily, weekly, shiftily inspections, and checklists for proactive and reactive management on the plant and TSF were sampled over the three year period to check the effectiveness of systems. Procedures reviewed included:- Reagent Area Work Permit procedure, Confined space entry procedure and permit, Job Hazard Assessment

procedure, Cyanide decontamination before maintenance and the Cyanide Sparging procedure.

A change management procedure is in place which includes provision for smaller changes. Safety representatives review procedures and safety meetings are held where the safety representatives are present. Job Hazard Analyses are done by the workers and Standard Operating Practices are developed and reviewed from these exercises. Workers are given the opportunity to raise their concerns or comments during pre shift safety meetings and toolbox talks.

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

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 6.2**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

The pH set point in the leach is 10.5 and controlled via lime addition on the SAG feed, based on the pH measured in the pre leach thickener. Alarms are set High at 11.0, Low at 10.0. Back-up pH is measured in CIL tank 1, alarming high at 11.0 and low at pH 9.5. A fixed gas monitor is installed at the No 1 CIL tank. A baseline gas survey was undertaken and hotspots identified with ongoing checks being made for potential new hotspots. Fixed cyanide gas monitors are placed at the following: - Reagent area (2), Security (1)- ICR (1), Grind circuit (2) CIL(3), Elution (2) – CCD (2). There are 10 Personal cyanide gas monitors in use (register in place for use, maintenance and calibration), with 4 held by the Emergency Response Team. Gas monitors are calibrated monthly although the manufacturer require only 6 monthly calibration. Calibration and maintenance are managed by a spreadsheet system. Technicians are trained to perform calibrations using standards obtained from the supplier. On-going inspections and checks are also used to monitor and check facilities and emergency response equipment functioning and checklists covering three years since certification were sampled. Safety equipment such as safety showers, low pressure eye wash stations, and fire extinguishers are numerous and adequately signposted.

Labelling and flow direction is indicated on cyanide lines and slurry lines. The workforce is trained that all slurries and waters inside the plant contains cyanide. Eating and drinking is only allowed in dedicated areas and this is indicated on signs and trained and reinforced during annual induction of contractors and plant staff. MSDSs are available at reagent storage area, the website at ChemAlert service, and cyanide safety and first aid signs are located widely in the plant. English is the working language for the site as well as the official national language and used in operational documentation. Formal employee interviews were used to check awareness and sensitivity to health and safety measures and the response from employees and contractors alike, was found to be

appropriate and acceptable. Accident and incident reporting and investigation procedures, based upon the site safety reporting requirements, were found to be in place and effective.

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

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 6.3**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

Running water is available on the plant, cyanide antidote is kept in a fridge and transported in a cooler bag to the emergency by ERT. SCBA sets are available at the cyanide mixing and storage area and at the control room, as well as with the Emergency Response Team (ERT). Oxy Viva (medical oxygen) sets are available at the control room and ERT, radios are used for communication in case of emergencies. The Pharmacy ensures that the cyanide antidotes are all current and replaced using a spreadsheet schedule, ordering 3 months before expiry date. First aid inspections are conducted and documented by ERT. On site, there is a fully equipped Emergency Response Team and clinic. Patients will be stabilised in the clinic. The on-site medical doctor in charge will make decision on further advanced medical care and evacuation. Cyanide equipment is regularly checked and tested and mock drills are held regularly on site.

The ERT and local clinic are involved in the regular emergency drills with drills being required at least twice per year in terms of the cyanide management plan. Full cycle mock drill reports were sighted which covered, man-down drills (A drill report included full analyses of the drill, with emergency response plan revision required and implemented.), and table top drills. Drill reports are copied to the training department for further consideration.

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.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

In place, there is a Mine Wide Ahafo Mine Emergency Response Plan(ERP), the Ahafo Process Plant Emergency Plan and an Emergency cyanide spill response procedure. The Emergency Preparedness Plan for Water and Tailings Dams Storage Facilities needs to be read in conjunction with the Ahafo Process Plant Emergency Plan. The plans combined, cover the full range of cyanide emergency scenarios likely to be experienced on site.

Transportation spills are dealt with in the contract with producer, Orica. The Ghana transporter, Barbex, is an ICMI Cyanide Code certified transporter and has a sodium cyanide emergency response plan for transportation incidents. Transport accidents may involve larger scale community evacuation.

The mine ERP covers general evacuation. Process site personnel evacuation is included in process plant evacuation procedure. There is a separate Community evacuation procedure. The cyanide first aid procedure is included in plant ERP. Only small hamlets may be affected by cyanide release from the plant. All incidents are investigated as per Ahafo incident reporting/ incident investigation procedure.

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

X in full compliance with

The operation is

- in substantial compliance with **Standard of Practice 7.2**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

The workforce is involved in the planning process through emergency drills. No outside stakeholders have designated responsibilities but are informed on its contents during dialogue sessions. Development and changes in the Plan are communicated down to the workforce through supervisors and the Plan is also included in monthly safety meetings. Emergency response requirements are covered in induction training and feedback is obtained from the workforce receiving induction. The Incident / accident process is also used for feedback into the emergency plans. A Memorandum of Understanding in place with local Police, and no other local response agencies are directly involved with the ERP. The on site medical clinic is involved with the ERP. Drills are used to involve clinic, ERT, ambulance and paramedic staff in planning and review processes.

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

X in full compliance with

The operation is

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

not in compliance with

Basis for this Finding/Deficiencies Identified:

A dedicated, full time, Emergency Response Team is in place and available. If event needs to be escalated, the response online Corporate driven system rapid response plan will be activated involving rapid high level structures as per NewmontRapidResponse.com webpage. The Team has clear duties, roles and responsibilities for the various emergency scenarios. Appropriate training is defined and described in the Process Plant Emergency Plan and the Mine Emergency Response Plan. Contact numbers are contained in the procedures, backed up by the weekly updated process standby schedule. The process plant emergency profile (inventory) and the process plant emergency equipment listing, detail lists as well as position of emergency equipment and frequency of inspection. Periodic drills involving relevant stakeholders ensure that roles and responsibilities are understood and clearly implemented.

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

X in full compliance with

The operation is

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

not in compliance with

Basis for this Finding/Deficiencies Identified:

The Process Plant Emergency Plan covers notification requirements to the regulatory agencies and management. The community evacuation procedure covers community and media communication. The Rapid Response procedure include rules for communication with authorities and the media.

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

X in full compliance with

The operation is

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

not in compliance with

Basis for this Finding/Deficiencies Identified:

Emergency management plan cross references to the Cyanide emergency spill procedure which covers solutions, soils, and disposal of spill clean-up debris, as well as recovery and disposal of spillages as appropriate to the site-specific identified scenarios. A local water supply company that is on contract to supply water as needed. The cyanide

emergency spill procedure requires that neutralising agents are prevented from entering a storm water drain or water course and may only be used under the direction of the process superintendent or above. Emergency sampling locations are indicated on the sampling map in the Emergency Environmental Monitoring Plan and sampling methodologies and parameters are contained in the environmental sampling management plan.

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

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 7.6**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

The Plan is required to be reviewed every three years, following incidents and emergency drills or when new information regarding cyanide becomes available. Evidence was sighted of reviews as a result of learning points from drills and incidents. Drills are required to be undertaken at least twice per year, in terms of the cyanide management plan.

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.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

All persons entering the plant receives cyanide awareness induction training covering cyanide hazard recognition and emergencies. A card system control prevents personnel from entering the plant if the induction was not completed. A training matrix is used to track training progress as part of the PDC (people Development Centre) system. The cyanide hazard training course file covering cyanide hazard recognition and safety was reviewed. An assessment is done after the training. Training records are kept at the PDC.

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.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 8.2**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

A training matrix is in place for production tasks and jobs. The matrix specifies training modules required for each job. Training received is updated to reflect current training and training needs. Training requirements and records were verified during sample interviews with staff. Sighted training matrix specifying training modules required for each job. The reagents training sessions plan was reviewed and a pass mark of 90% is required for theory and 100% for practical. Training refer to SOP (Standard Operating Procedure) and Standard Task Procedures (STP) for the tasks. Training elements as well as references are included in the session plan. All task training is done on the same format and using the matrix to identify required modules. On the job training together with an operator is undertaken. The trainer completes the workplace assessment to confirm the trainee is trained and competent and the results are recorded in the PDC system. Task training is repeated formally and annually for refresher purposes. Supervisors carry out 12 planned task observations per month each and PTO's are discussed during monthly training meetings.

Trainers are qualified work place training assessors with the appropriate experience. Supervisors are required to undergo leadership training which includes training and communication skills. Training records are kept at the PDC.

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

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 8.3**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

All plant staff are trained in cyanide spill response, the corporate rapid response system will kick in for spills classified as a significant spill event. Plant staff are trained in the reaction to a man down, first responders are trained in SCBA, chemical suit and OxyViva. The ERT 5 man crew are trained in emergency response, including cyanide first aid. A qualified paramedic accompanies the ERT team and the cyanide patient is removed to a fully equipped on-site clinic.

Emergency response team is trained by 3rd party specialist trainers in the use of response equipment. Drills are used to train the emergency response plan to plant staff the ERT and clinic staff. Annual induction and refresher training includes cyanide awareness / Orica training, and the ERT receives ongoing practical and theory training. Evidence of emergency drills was sighted. Drill reports and videos are copied to the training department and used in the training programmes.

9. DIALOGUE: Engage in public consultation and disclosure.

Standard of Practice 9.1: Provide stakeholders the opportunity to communicate issues of concern.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

Dialogue meetings or “one-on-one’s” are two-way dialogue sessions involving both dissemination of information and the answering of questions on cyanide. Community information's centres, manned by community relations officers, are situated in the various communities around the mine including Kenyasi No1, Kenyasi No 2, Ntotroso, Gyedu, Wamahinso, Adrobaa, Yamfo, Terchire, Afirisipakrom, Susuanso. These centres all have cyanide fact sheets available. Guided plant tours are conducted involving local communities and stakeholders. The main stakeholder groupings identified are traditional authorities, youth groups, faith-based groups, schools, NGO's and community organisations (CGO's), regulators and government authorities, media, and various consultative forums. Stakeholders are mapped annually, updating contacts and groupings. Communities are afforded the opportunities to raise issues and records of feedback are documented in the electronic system. No specific cyanide complaints have been raised to date. Contact numbers are available for the Mine but face to face communication is preferred. There is also a formal grievance / complaint management procedure which stakeholders can make use of.

Standard of Practice 9.2: Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 9.2**
 not in compliance with



Basis for this Finding/Deficiencies Identified:

Dialogue meetings or “one-on-one’s” are two-way dialogue sessions involving both dissemination of information and the answering of questions on cyanide. Community information's centres, manned by community relations officers, are situated in the various communities around the mine including Kenyasi No1, Kenyasi No 2, Ntotroso, Gyedu, Wamahinso, Adrobaa, Yamfo, Terchire, Afirisipakrom, Susuanso. These centres all have cyanide fact sheets available. Guided plant tours are conducted involving local communities and stakeholders. The main stakeholder groupings identified are traditional authorities, youth groups, faith-based groups, schools, NGO's and community organisations (CGO's), regulators and government authorities, media, and various consultative forums. Stakeholders are mapped annually, updating contacts and groupings. Communities are afforded the opportunities to raise issues and records of feedback are documented in the electronic system. No specific cyanide complaints have been raised to date. Contact numbers are available for the Mine but face to face communication is preferred. There is also a formal grievance / complaint management procedure which stakeholders can make use of.

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

X in full compliance with

- The operation is**
- in substantial compliance with **Standard of Practice 9.3**
 - not in compliance with

Basis for this Finding/Deficiencies Identified:

Regular tours are conducted which include plant visits and presentations. The plant process including description and use of cyanide is explained and a presentation entitled "Cyanide Management" was sighted. The Ahafo site tour schedules for 2008, 2009 (1 827 people attended) and 2010 were sighted. Tours are attended by a wide range of people and stakeholder groupings. This was confirmed when reviewing the extensive lists of attendees. Tours are conducted in the local language, Twi, as well as English. The information leaflet: Facts on Cyanide, distributed to the stakeholders and communities and during tours was reviewed. It is estimated that around 30% of the communities are illiterate. Newmont globally reports specifically on the Cyanide Code on their global website. The incident report on the Ahafo October 2009 overtopping incident was posted at http://www.beyondthemine.com/2010/environment/performance/environmental_incidents/ which contains full information on cyanide management, exposures and releases.