

***INTERNATIONAL CYANIDE
MANAGEMENT INSTITUTE***

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

***Summary Recertification
Audit Report***

***Abosso Goldfields
Damang Gold Mine
Ghana***

2nd – 7th May 2011

Name of Operation: Damang Mine

Name of Operation Owner: Gold Fields Limited

Name of Operation Operator: Abosso Gold Fields limited

Name of Responsible Manager: Charles Amoah, Metallurgical Manager

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Location detail and description of operation:

Abosso Gold Fields limited, Damang Mine is located near the village of New Damang, some 30 kilometers north east of Tarkwa, in the western region of Ghana.

Abosso Gold Fields, Damang mine operates a carbon-in-leach (CIL) processing plant which is fed run-of-mine (ROM) ore at approximately 14000 tonnes per day (4.8 million tonnes per annum). Plant feed consists of 95% fresh (blasted) hard rock and 5% weathered (oxide) materials.

ROM ore is crushed using a gyratory crusher followed by a secondary crushing stage and stockpiled. Ore is then fed to a milling circuit consisting of a SAG (Semi Autogenous Grinding) and Ball mill. The milled ore is classified by means of cycloning with the overflow reporting to the seven CIL tanks of 3000 cubic metres each. The cyclone underflow returns to the Ball mill for regrinding. The underflow stream is also bled to feed 2 x 48" Knelson concentrators. The concentrate from the Knelsons are upgraded to smeltable gold concentrate using a shaking table. The shaking table tails are returned to the ball mill. The leach tails are thickened to a 55% solid density and pumped to the tailing dam. The thickener overflow joins the process water pond as recycled water. Loaded carbon from the CIL is acid washed and eluted at high pressure and temperature. Gold is finally recovered by electrowinning of the pregnant solution and smelting of the cathodes with flux.

Damang Mine


Signature of Lead Auditor

10th October 2011

Auditor's Finding

This operation is

X in full compliance

in substantial compliance *(see below)

not in compliance

with the International Cyanide Management Code.

This operation has not experienced compliance problems during the previous three year audit cycle.

Audit Company: Eagle Environmental

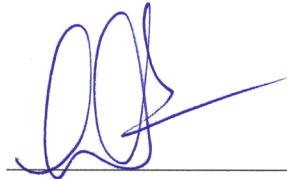
Audit Team Leader: Arend Hoogervorst

E-mail: arend@eagleenv.co.za

Names and Signatures of Other Auditors:

Name : Dawid M. L Viljoen

Signature



Date:

10/10/2011

Dates of Audit: 2nd – 7th May 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.

Damang Gold Mine

Facility

Signature of Lead Auditor

Date



10/10/2011

Damang Mine

Signature of Lead Auditor

10th October 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:

The Company obtains its cyanide supplies from 2 sources, Orica and Samsung. A contract is in place with Orica, who are certified fully ICMI compliant producers and the Orica West Africa supply chain is also fully ICMI certified. Similarly, a contract is in place with Samsung, who is an ICMI certified consignor, and obtains its cyanide from TaeKwang Industries production facility, which is also ICMI certified and fully compliant. The Samsung Ghana supply chain is fully ICMI certified.

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 with Orica includes transport and delivery of the cyanide to the mine site. The producer uses a subcontractor, Barbex (to transport cyanide inside Ghana), which is fully ICMI code compliant for the Ghanaian leg of the storage, transport and delivery of the Sodium Cyanide briquettes from Port to Mine. (Recertified 15 February 2011). The Orica Australia and West Africa supply chains are also fully certified. Samsung is an independent distributor of cyanide, sourcing sodium cyanide briquettes from an ICMI certified producer, TaeKwang Industries. The Samsung Ghana supply chain from producer, TaeKwang Industries, to site at Damang, is fully certified under the ICMI Cyanide Code (23 September 2010). Both contracts cover the responsibilities for packaging, labelling, interim storage, route selection, loading and off-loading, security, safety training, and emergency response.

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 with Orica includes transport and delivery of the cyanide to the mine site. The producer uses a subcontractor, Barbex (to transport cyanide inside Ghana), which is fully ICMI code compliant for the Ghanaian leg of the storage, transport and delivery of the Sodium Cyanide briquettes from Port to Mine. (Recertified 15 February 2011). The Orica Australia and West Africa supply chains are also fully certified. Samsung is an independent distributor of cyanide, sourcing sodium cyanide briquettes from an ICMI certified producer, TaeKwang Industries. The Samsung Ghana supply chain from producer, TaeKwang Industries, to site at Damang, is fully certified under the ICMI Cyanide Code (23 September 2010). Both contracts cover the responsibilities for packaging, labelling, interim storage, route selection, loading and off-loading, security, safety training, and emergency response.

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.

Damang Mine

Signature of Lead Auditor

10th October 2011

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:

The operation procures solid cyanide and the mixing of solid cyanide is done on site. Detailed, professionally designed, drawings for the cyanide mixing and storage area were sighted during first certification audit which clearly indicated the structures were designed and located on concrete and away from people and surface waters. A subsequent external, inspection of structural steel work was conducted, declaring the plant as being constructed in accordance with design documents and at the same time, performing a quality survey on the cyanide mixing and storage facility. Site inspections showed that secondary containments were built from concrete and provide a competent barrier to leakages, providing adequate and appropriate containment. The solid cyanide storage area is in a roofed structure, with a concrete base and open sides, allowing for adequate air circulation and prevention of weather impacts. The cyanide tank is equipped with a level indicator, interlocked with the make-up tank pump and linked to the control room. Procedures covering cyanide unloading, mixing, transfer and handling of full and empty cyanide boxes were reviewed and found to be effective. The Cyanide area is fenced and security controlled with adequate controls and separation to prevent mixing with incompatible materials.

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

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:

The site has detailed off-loading of the shipping container, mixing and handling and disposal of empty packaging procedures which clearly document the sequenced tasks to be carried out. Use is made of a sentry (buddy) during the activities and appropriate PPE is required during the operations. Procedures are also in place for the safe handling of wet and dry cyanide spills.

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 site has 31 cyanide specific procedures for normal, abnormal and emergency conditions, supported by 200 other standard operating procedures and 84 engineering procedures covering other related processes and plant activities which were extensively sampled, reviewed and found to be effective. The TSF operating manual (developed from the original design documentation and parameters for the facility) and associated water management procedures and appropriate supporting technical information were sighted and reviewed. Quarterly technical inspections of the TSF facilities are undertaken to ensure integrity and safety. A change management procedure is in place and functioning in conjunction with a risk assessment system. The site has cyanide destruction systems in place which are supported by appropriate inspections and preventative maintenance. Preventative maintenance and inspection was controlled by an electronic system called "Mainpac" and has now been replaced by the SAP system. Key pumps, tanks, banded areas and equipment were checked on both old and new systems and found to be systematically and seamlessly maintained through visual and mechanical checks, thickness tests and historical reviews. The plant has 24 generators which can fully run the entire operation in the event of National Grid failure or outages. Routine daily and monthly inspection reports, legal inspections, and checklists were sampled and employees interviewed to check the effectiveness of systems and ensure proactive and reactive management. Twenty four back-up generators are in place for use in case of power outages due to unreliability/shortage of national grid power. Back-up generators provide sufficient power to run the whole plant. The plant is designed with sumps and sump pumps to contain spillages and return spillages to process tanks.

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

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- 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:

An optimisation program, including various metallurgical and diagnostic leach tests for Gold Fields Ghana Abooso Mine (Damang) was sighted and reviewed. Bottle roll tests are conducted and filed electronically. Test work identifies ore characteristics and typical cyanide consumption and relates it to the current increased trends in cyanide consumption. Mineralogy results indicate low copper contents, but sulphides have been identified as possibly a reason for increased cyanide consumption. Changes in the process flow sheet are being considered to improve overall efficiency, including cyanide consumption, as result of the expected ore mineralogy changes. A TAC 2000 controller is used for cyanide control to the ball mill, backed up with cyanide titrations every 2 hours, and a WAD analyser has been ordered for installation on the CIL tank 7 and tailings.

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:

A comprehensive, probabilistic water balance was prepared for the TSF by external consultants and reviewed in 2009. A corresponding probabilistic water balance for the plant was sighted. Full information is available on rainfall, storm events (model based around the 1 in 100, 24 hour storm event), solution deposition, and cyanide destruction capacities. The water balance indicates that the plant requires water from external makeup sources and does not have excess water requiring detoxification facilities before being discharged. Detoxification facilities are available for use only in emergencies, and can be manually added, when needed. Precipitation records are available for the site from 1998. Procedures and operating plans for the TSF were developed, based upon the direction given in the design data and studies. Daily plant inspections record all water pond levels as well as rainfall data and phreatic levels at the TSF. Procedures and plans are in place to manage normal and emergency conditions. The minimum freeboards and operating capacities of ponds are identified and documented. All relevant procedures, plans and initiatives were reviewed and found to be appropriate in managing to prevent overtopping and unintentional releases.

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:

For a period of 9 months, WAD cyanide compliance data was sampled from a non-compliant sampling point, due to an unauthorised sampling point change.

Once this was discovered via external audit, the WAD Cyanide Compliance Sampling point was realigned to a Code compliant position. Procedures were amended to ensure that Cyanide Code sampling points could not be changed without ensuring that new positions are Code compliant. A new procedure was introduced which aligned with the TAC 2000 cyanide controller at the number 1 tank, formalising responses to abnormal conditions and using the 18 hours of leach contact time in the other tanks, to react to abnormal WAD conditions. The procedure also includes controls for abnormal situations such as a TAC 2000 failure. The frequency of TSF sampling has been increased.

A project plan is being developed to change the WAD cyanide control philosophy to additionally monitor WAD cyanide levels before slurry leaves the plant, using a Mintek Cyano-probe. WAD cyanide values at the TSF deposition spigots from mid-October 2010 to June 2011 were sighted, following the corrective actions, and no exceedances of the 50 ppm WAD CN were noted, with the majority being either in the range between 30 and 40 ppm or below 20 ppm. No mortalities were recorded since the last certification period.

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:

The site has no direct or indirect discharges to surface water. There are procedures in place to manage spills and releases to prevent discharge to surface water and ongoing surface and groundwater monitoring takes place. There is no specific identified use for groundwater in the mine's catchment area.

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

No beneficial use of groundwater identified. A Borehole monitoring program is, however, in place. Both upstream and downstream borehole monitoring is taking place and all results are less than detectable limits (<0.01mg/l WAD cyanide). Monitoring boreholes are provided and monitored to establish early warning in the event of any seepage occurring. Potential seepage into paddocks and containment areas around TSF are monitored by inspections and managed via a TSF operating manual.

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:

Although there are ring beams under certain tanks, the material on the ring beam between the tanks and subsoil has been deemed impermeable by a Competent Person. The site's design includes bunding and containment for all cyanide tankage and piping. Cyanide tanks and pipelines are manufactured from materials compatible with cyanide and high pH conditions according to Australian Standards. Spill prevention is primarily managed through the use of procedures, preventative maintenance and training. Solutions and liquids in secondary containment are pumped back into the circuit and all secondary containment areas are maintained empty. Effective procedures were also sighted which manage cyanide spillages, leaks, decontamination and transferring spillage from cyanide sumps. The site has full back up power available to power pumps in the event of outages. Bunding areas are interlinked to maintain the required '110% capacity of largest tank' standard and an additional pipe connecting the bunds with the site's spillages trench system is in place. Procedures were sighted covering pond inspections, solution water management, and stormwater management. TSF pipelines are also regularly inspected three hourly during daytime with drive-by supervisor checks on the night shift.

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.

X in full compliance with

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

 not in compliance with

Basis for this Finding/Deficiencies Identified:

No new cyanide facilities were constructed since the certification audit in January 2008. The Quality Assurance/Quality Control program and documentation for the addition of the no 7 CIL tank was verified during this audit.

A Mainpac PM system is in place which guides daily, weekly and monthly operational inspections covering all the operations involving cyanide equipment and this has been replaced by a SAP PM system. An independent report on a cyanide facilities inspection in 2010 and a report on the current condition and integrity of the existing cyanide storage / mixing facility was sighted. The reports by the independent specialists identified potential problem areas and corrective action is being carried out.

The weekly reports for the TSF were sighted and reflected appropriate on-going engineering controls and checks on construction, stability and safety.

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 monitoring program is in place to sample both surface and groundwater for cyanide, which forms a part of the site's environmental monitoring matrix, which was reviewed. Monitoring, sample preservation and custody and chain of custody procedures were developed internally by competent persons and checked by external certified laboratories. Monitoring and inspections (including checks for bird mortalities and bird species on the TSFs) are guided by appropriate procedures and guidelines. The site's water quality sampling regime was sighted which indicated sample sites, samples types to be taken, and frequency. Frequencies range from weekly to monthly to quarterly. Detail on sample points was reviewed and found adequate for sample point circumstances. The site's Environmental Department investigates all wildlife mortalities, injuries or stress incidents which are formally reported as environmental incidents in the site EMS.

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 specific procedure is in place to ensure that planning adequately covers cyanide decommissioning and closure. An implementation schedule forms an appendix in the decommissioning procedure. The procedure is fully reviewed annually.

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:

The site Decommissioning Plan was prepared externally in 2008. The next cost review is scheduled for end of 2011. Documentation supporting the closure and decommissioning financial assurance mechanism, including cash deposits and bank guarantees (updated July 2010), were sighted.

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:

There are thirty one cyanide specific, operational procedures in place, with two hundred other standard operating procedures covering the cyanide related sections and processes on the plant. Also sighted were eighty four engineering procedures covering cyanide equipment maintenance. All of which cover the minimising of worker exposure to cyanide during all cyanide-related tasks. Site procedures were extensively checked through examination and interview and records relating to risk assessments checked for worker input and involvement. Evidence of operational and Planned Maintenance inspections was sighted and verified as being adequate for circumstances. The main change management system on site is as per the site's OHSAS 18001 requirements. Appropriate PPE and pre-work inspections are specified in procedures for all cyanide-related tasks. Workers are involved in HAZOPs, risk assessments and safety meetings where procedures are discussed. Worker interviews confirmed that workers are involved in discussing and proposing changes in health and safety procedures.

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:

A procedure sets pH control at above 9.8. The pH control is undertaken by measurement in the No 1 leach vessel from where lime addition on the SAG feed belt is controlled via PLC. Seven "Hot spots" have been identified and clearly demarcated and procedures indicate PPE required, personal monitoring that needs to be carried out and precautions that must be observed. On-going inspections and checks are also used to monitor and check facilities and emergency response equipment functioning. Safety equipment such as safety showers, low pressure eye wash stations, and fire extinguishers are numerous and adequately signposted. A site wide pipe colour coding system is in operation which includes cyanide pipe colour coding and directional flow signage which is included on the PMS. Fixed and mobile HCN gas monitors are used on site and are calibrated and maintained according to procedures using manufacturers recommendations. 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 OHSAS 18001 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:

The plant is in very close proximity (+/- 800 metres) to the fully equipped medical clinic and emergency facility stores. Inside the plant is an interim emergency facility to support the efforts of the emergency response team. Cyanide emergency procedures form part of the site-wide emergency preparedness plan which covers the whole site and includes the cyanide facilities. The scope of the plan includes site-based responses, the use of an emergency response team, and includes provision for evacuation of patients by ambulance to a local hospital in Tarkwa which is adequately staffed by appropriately trained personnel. Emergency first aid equipment, antidotes, medical oxygen and BA sets are accessible and this is supported by a formal cyanide first aid procedure. The Cyanide Alarm is raised using two way radios using a dedicated channel and an emergency internal telephone number (555). Equipment is regularly checked and tested and mock drills are held on site and in conjunction with the hospital. Interviews confirmed employee knowledge of cyanide hazards, and emergency response.

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:

The site has used a risk assessment to develop site-specific emergency scenarios and responses for its emergency response plan. The emergency preparedness plan combines existing procedural responses and emergency provisions to deal with the various scenarios and includes and identifies the emergency response team and coordinators who are on all shifts. These preparations are regularly reviewed in the light of changes, mock

drill learning points and employee feedback. The Plan also links to procedures and resources in other systems (e.g. ISO 14001), should they be required. Both Transporters (Barbex and AllShip) have an emergency response plan and emergency drills have been conducted by the site to test the emergency response plans of the transporters.

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:

Health and Safety Committee and Shift meetings are used to communicate developments and changes in all cyanide activities, including emergency response. Representatives of the workforce (employees, Health & Safety Representatives and Union representatives) were involved in the risk assessment to develop the emergency scenarios and response in the emergency response plan and procedures. The Damang Mine Community Consultative Committee has quarterly meetings which include receiving information on the emergency plan, as appropriate and as relevant.

The external medical contractor, Crusader Health, is manning the local clinic as well as managing the Tarkwa hospital and is involved in emergency response. Full cycle drills are used to involve hospital staff in planning 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:

The Emergency Preparedness Plan details clear duties, roles and responsibilities for the various emergency scenarios and for an on-scene commander (Chief Safety Officer with his deputy as his alternate, on-scene commander), and Area Commander (Metallurgical Manager with the Plant Manager as his deputy). The Area Commander has full authority to commit necessary resources. The Local Affairs Manager coordinates communication and actions that may be appropriate for the community. Emergency equipment lists were checked and site inspections confirmed availability and readiness. The Plan includes contact references (telephone, cell phone, etc) of internal and external resources for the various scenarios, particularly with detail where external resources and skills might be

needed. Emergency Team members were checked and training records and assessments showed the individuals to be well prepared and well equipped for cyanide emergencies. Periodic full scale drills involving internal and external 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 Emergency Preparedness Plan includes full details for appropriate emergency notification and reporting and the call-out procedure and contact information lists which are updated regularly. Media communication is done via a formal procedure. The Local Affairs Manager coordinates communication and actions that may be appropriate for the community and contact details for community representatives were sighted.

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:

The Emergency Preparedness Plan cross-references to detailed and specialised procedures which cover clean-up and remediation relating to releases, pipeline failures and spills, as appropriate to the site-specific identified scenarios. Use of neutralization processes and materials is clearly covered, as is disposal of contaminated materials and the use of treatment chemicals such as ferrous sulphate in surface water is prohibited. Sampling procedures also cover remediation issues. There are also cross references to the centralized environmental procedures which form part of the Environmental Management System. In the event of a spill, a water quality analyses program will be set up, based upon the existing framework and modified according to site and event specific requirements. There are no identified circumstance where provision of drinking water would be required. Two town site boreholes are available to supply supplementary water.



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 Emergency Preparedness Plan is required to be reviewed annually following incidents and emergency drills or when new information regarding cyanide becomes available. Mock drill reports covering man down and spill drills and gassing were sighted and reviewed. Evidence was sighted of learning points emerging from the various cyanide man down drills.

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 mine staff receive very basic cyanide awareness training and workers inside the cyanide area receive more advanced cyanide training. Written competency tests are taken, supported by oral checks and evaluations. Site cyanide training programs were reviewed. Nine randomly selected employees were checked in interviews on their understanding of cyanide hazards, first aid and emergency response and this was verified through checking of their training records. Refresher training is conducted when employees return from annual leave.

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:

The site's Training Matrix details training requirements for all cyanide workers in the plant. New employees are trained and passed out before being allowed to work in the Plant. Standard Operating Procedures are used as the training source material. The Metallurgy Department has a Cyanide Training Officer who is responsible for all cyanide training. The Trainer assesses employees after training and also carries out on-the-job observations and Planned Task Observations (PTOs) to test training effectiveness and application. PTO's are also undertaken by Supervisors. Full records are kept of training and induction training records are kept for two years.

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 employees receive cyanide training which includes mandown response, and protecting themselves. A separate emergency response team will deal with incidents and workers are trained to barricade and raise the alarm and use the appropriate PPE. Advanced training is given to the emergency response teams. Periodic mock drills are undertaken and training personnel attend these drills and formally evaluate response and performance. Training records were checked to confirm attendance and successful completion. General cyanide worker refresher training is scheduled 6 monthly (reagent make up) and annually for others. Specialised Emergency Team refresher training (including relevant external responders) is done annually as per schedule.

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:

The phone number of the Community Affairs Manager is available to communities in case they need to contact him on any community issue. In an interview with the Community Manager and Ongoing training program covering Cyanide awareness, Management education and emergency response training for Damang Mine Stakeholder Communities was shown to be in place. The program schedule, "Cyanide and the Community - facts and what it means to you" includes the following villages:- Koduakrom, Ntsiakokrom, Damang, Kyekyewere, Huni-Valley, Amoanda, Bompieso in 2008 and in 2010, it included the following villages:-, Subri, Koduakrom, Damang, Ntsiakokrom, Kyekyewere, Huni-Valley. Discussions with community leaders take place and questions raised are quite basic and include if they can drink rain water and which water is poisonous. The scoping of the proposed tailings dam was discussed in a meeting in December 2010, and a question on seepage was raised. Records are kept, including pictures of the meetings.

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:

The phone number of the Community Affairs Manager is available to communities in case they need to contact him on any community issue. In an interview with the Community Manager and Ongoing training program covering Cyanide awareness, Management education and emergency response training for Damang Mine Stakeholder Communities was shown to be in place. The program schedule, "Cyanide and the Community - facts and what it means to you" includes the following villages:- Koduakrom, Ntsiakokrom, Damang, Kyekyewere, Huni-Valley, Amoanda, Bompieso in 2008 and in 2010, it included the following villages:-, Subri, Koduakrom, Damang, Ntsiakokrom, Kyekyewere, Huni-Valley. Discussions with community leaders take place and questions raised are quite basic and include if they can drink rain water and which water is poisonous. The scoping of the proposed tailings dam was discussed in a meeting in December 2010, and a question on seepage was raised. Records are kept, including pictures of the meetings.

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

X in full compliance with

Damang Mine


Signature of Lead Auditor

10th October 2011

The operation is in substantial compliance with **Standard of Practice 9.3**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

Literacy in the area is around 40 - 50% and training presentations are given in the form of pictures and explanations in Twi (local language) to clarify the given information. Monitoring data is provided to government officials according to legal reporting requirements. The Procedure for emergency response classifies incidents from level 1 - 5. Policy requires level 3 to be reported, all incidents reported to government from level 2. There is a Procedure for external environmental communication in place. The Gold Fields Annual report, which is publically available, specifically contains information on all level 3 incidents.

