

***INTERNATIONAL CYANIDE
MANAGEMENT INSTITUTE***

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

Summary Audit Report

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

21st – 25th January 2008

Name of Operation: Damang Mine

Name of Operation Owner: Goldfields Ltd

Name of Operation Operator: Abosso Goldfields Limited

Name of Responsible Manager: Charles Amoah, Metallurgy Manager

Address: P O Box 208, Tarkwa

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Country: Ghana

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Location detail and description of operation:

Abosso Goldfields Ltd Damang Gold Mine is located near the village of New Damang, some 30 kms northeast of Tarkwa, in the western region of Ghana.

Abosso Goldfields Damang mine operates a carbon-in-leach (CIL) processing plant which is fed run-of-mine (ROM) ore at approximately 14,000 tonnes per day (4.8 million tonnes per annum). Plant feed consists 70% fresh (blasted) hard rock and 30% weathered (oxide) materials.

ROM ore is crushed using a gyratory crusher 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 capacity 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% solids density and pumped to the tailings dam. The thickener overflow joins the process water pond as recycle 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.

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 Corrective Action Plan to bring an operation in substantial compliance into full compliance must be enclosed with this Summary Audit Report. The plan must be fully implemented within one year of the date of this audit.

Audit Company: Eagle Environmental

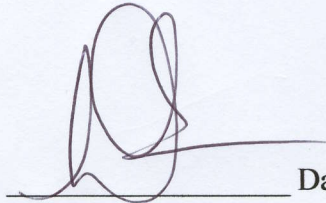
Audit Team Leader: Arend Hoogervorst

E-mail: arend@eagleenv.co.za

Names and Signatures of Other Auditors:

Name : Dawid M. L Viljoen

Signature



Date: 22/04/2008

Dates of Audit: 21st – 25th January 2008

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.

Abosso Goldfields Damang Gold Mine

Facility

Signature of Lead Auditor

Date

25/4/08

LYNETTE HEATHER LAUDERDALE

Conveyancing Paralegal

Ewing McKewen Inc.

Certified/notarized: (Formerly Ewing Adams & Associates)

Commissioner of Oaths RSA

28 Old Main Road, Hillcrest 3610

REF: 9/1/8/2 Pinetown. 18/11/2004

Damang Mine

Signature of Lead Auditor

22nd April 2008

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 plant's cyanide manufacturer and supplier, Orica, is an ICMI Code Signatory and has achieved full compliance in a verification audit against the ICMI Cyanide Code.

The combined supply and transport contract stipulates that the supplier must be signatory to the ICMI and must be ICMI Code compliant.

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:

Orica, the mine's cyanide manufacturer, is contracted to transport the cyanide to site. Orica sub-contracts the transportation of the cyanide for the Ghana leg of the journey (Ghanaian port to storage to site) to Barbex, a Ghanaian transport company who are ICMI signatories and fully compliant as transporters and distributors. The Barbex Summary Audit Report dated November 2007, prepared by Golder Associates, reports that Orica Australia's transport operations within Eastern and Northern Australia are in full compliance with the ICMC. Risk Assessments covering transport legs from Yarwun (manufacturing site) to the Port of Brisbane and from Brisbane to the Ghanaian ports of Takoradi and Tema were sighted and confirmed due diligence for land and sea transport. The contract stipulates in detail, the responsibilities and requirements for packaging and labeling, safety, security, escort, emergency response (spills prevention and clean-up), route planning and risk assessments, community liaison, emergency response resource access and availability, training, and communication. It also stipulates that there will be appropriate liaison, joint drills and training.

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

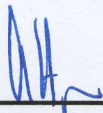
☐ in substantial compliance with **Standard of Practice 2.2**

☐ not in compliance with

Basis for this Finding/Deficiencies Identified:

The supply and transport contract for Orica stipulates that the transport sub-contractor must be a signatory to the ICMI and must be ICMI Code compliant. Orica Australia's Cyanide Transportation Code Equivalent, Non-Certification Audit Summary Report of 2007 confirms compliance of Cyanide Transportation by Toll Resources (Road) & QR National (Rail) from manufacturing site to Brisbane (The Report covers all road and rail transportation in Northern Territory, Queensland & NSW). A Due Diligence investigation report of 18 January 2008 on movement of containerised IBCs from Brisbane to Takoradi/Tema, Ghana confirms that the Shipping Company, MSC, is IMDG Code compliant and conforms to the principles of the ICMC. Non-certification audits and due diligence investigations were conducted by auditors meeting ICMI criteria. The Ghanaian transportation subcontractor, Barbex, transporting the cyanide from Takoradi to the mine site is fully ICMI code compliant have achieved full compliance in November 2007. All carriers were accordingly shown to have complaint emergency response plans and capabilities.

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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:

The operation procures solid cyanide and mixing of solid cyanide is done on site. Detailed, professionally designed, drawings for the cyanide mixing and storage area were sighted which clearly indicated the structures were designed and located on concrete and away from people and surface waters. Secondary containments built from concrete provide a competent barrier to leakages and provide adequate and appropriate containment. Quality control documentation was sighted indicating the appropriate engineering checks were undertaken. 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. Cyanide tanks are equipped with level indicators, 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. Cyanide areas are 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:

Procedures are in place to cover solid and liquid spill responses. All procedures include step by step task and hazard identification and appropriate actions for normal, abnormal and emergency occurrences. PPE requirements are included in procedures. The site utilizes solid cyanide which is delivered in sea containers which are “destuffed” of their cyanide into secure storage areas. The off-loading and “destuffing” procedures are thorough and detailed. Mixing operations are covered by sequenced instructions. Cyanide packaging (wooden boxes, liners and bags) are stored securely and returned to the transporter/distributor (Barbex) for burning under controlled conditions. Use is made of the Buddy system to optimise safety and safe handling. Inspection checklists were sighted and interviews conducted which confirmed cyanide awareness and competency. All reagent cyanide facilities are covered in the preventative maintenance system, with defined maintenance frequencies. Regular documented inspections are undertaken by shift staff and these are supported by regular legal inspections by safety officers and management.

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 178 other standard operating and 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, established via the site OHSAS 18001 system requirements 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 is controlled by an electronic system called "Mainpac". Key pumps, tanks, bunded areas and equipment were checked on the system and found to be systematically 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 that ensure proactive and reactive management.

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:

Based upon original feasibility work, ore variability was found to be not significant. Cyanide optimisation is done based on daily leach test work on tails and bottle roll tests are conducted to determine optimal conditions. A TAC 2000 cyanide addition control and analyser is used for cyanide control in the ball mill, backed up by cyanide titrations every 2 hours.

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 a corresponding probabilistic water balance for the plant was sighted. Information is available on rainfall, storm events, solution deposition, and cyanide destruction capacities, should they be required. 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:

WAD cyanide values for discharges to the TSF and open process solution ponds have been shown to be significantly less than 50 ppm WAD. 2007 data varied between 0.64 and 1.72ppm WAD with a maximum of 29.7ppm WAD. No cyanide-related bird, or wildlife mortalities have been experienced since the signing of the ICMI Code. A Study by the Ghana Wild Life Society carried out in August 2007 ("Biodiversity survey of the operational areas of Abosso Goldfields Damang") has included various wildlife surveys, including birdlife as a part of the management process.

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. No beneficial use of groundwater has been identified specifically in the mining licence. However, the jurisdiction monitors water quality results against generic water quality standards. 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

Monitoring boreholes are provided and monitored to establish early warning in the event of any seepage occurring. Current and historical data indicates cyanide levels below the limits of detection. Potential seepage into paddocks and containment areas around TSF are monitored by inspections and managed via 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:

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. 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 from 24 generators 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.

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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:

Quality control and quality assurance records were sighted for the Number 7 Cyanide tank project, the only new development on site since signing to the ICMI Code. QA/QC tests and checks sighted included:- concrete cube tests on concrete work, completion and handover of works rock infill to 7 CIL tank foundation and photographic records of welds and the tank.

A Mainpac PMS system is in place which guides daily, weekly and monthly operational inspections covering all the operations involving cyanide equipment. A 2007 report on the construction and current condition of the cyanide storage / mixing facility signed by a quality control manager reflected on-going external checks and monitoring, as did an external 2007 cyanide facilities inspection report covering cyanide dry storage, mixing and leach and CIP tank farms.

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 checking 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:

Specific procedures are in place to ensure that planning and costing adequately covers cyanide decommissioning and closure. An implementation schedule forms an appendix in the decommissioning and reclamation plan. The decommissioning and reclamation plan is fully reviewed every three years and the next review is due in 2008.

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 with a view to third party decommissioning in 2005 and the next review to reinforce this is in 2008. Documentation supporting the closure and decommissioning financial assurance mechanism, including cash deposits and bank guarantees (updated July 2007), were sighted. These are a condition of the mining licence.

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.

Damang Mine

Signature of Lead Auditor

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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 is a full and detailed set of some 31 procedures in place and functional which covers the minimising of worker exposure to cyanide during all cyanide-related tasks. The site has a baseline risk assessment and conducts issue-based risk assessments when required. Site procedures were extensively checked through examination and interview and records relating to risk assessments checked for worker input and involvement. 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. Procedures were developed from risk assessments and reflect responses to normal and abnormal conditions. Checks and balances are in place through worker involvement in risk assessments, through consultations in Health & Safety Committee meetings and during shift meetings.

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 (+/- 150 metres) to the fully equipped medical clinic and emergency facility stores. Adjoining the cyanide mixing area is an interim cyanide emergency facility. 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 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. Key community members in identified communities have been trained to liaise between mine and community should cyanide events require actions on the part of the community on matters such as water usage or evacuation. The Plan also links to procedures and resources in other systems (e.g. ISO 14001 and OSHAS 18001), should they be required.

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. There is a complex structure of planned meetings with community leaders and individual villages which has been used to initially communicate with communities on cyanide, cyanide emergencies and raise awareness and answer questions and concerns. Due to high illiteracy, much of the communication is done verbally and is also done jointly with the cyanide transporter, Barbex, as a part of total ICMI commitment. Presentation materials and documentation on the communications was sighted. Full cycle drills are used to involve hospital staff in planning processes.

The external medical contractor manning the local clinic as well as the Tarkwa hospital are involved in emergency response. The Site Medical Director has sighted the plans and is aware of required duties and treatment plans. Fortnightly meetings are held and significant issues discussed and noted.

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

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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

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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.

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 new Emergency Preparedness Plan, implemented in 2008, separates from the original non-cyanide specific mine emergency response plan. The Plan is required to be reviewed annually following incidents and emergency drills or when new information regarding cyanide becomes available. A full cycle drill to hospital which included a dry cyanide spill and cyanide related injury was sighted. 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

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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. Fifteen 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. 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 of 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 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 the case they need to contact him in case of any issue. Quarterly meetings are formally held (which include cyanide education campaign commentary) and other informal meetings are held. Information regarding cyanide transport was given to community leaders during 2007 where smaller meetings with the individual camps were planned and discussed.

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:

Quarterly meetings are formally held (which include cyanide education campaigns) which include chiefs, and government officials, public affairs officials, and district assembly persons (councillors) and other informal meetings are held discussing projects, general cyanide awareness, cyanide incidents and emergencies. Direct response was

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Signature of Lead Auditor

22nd April 2008

obtained during the discussions, arising from questions and issues regarding cyanide. Information regarding cyanide transport was given to community leaders during 2007 where smaller meetings with the individual camps were planned and discussed. The phone number of the Community Affairs Manager is available to communities in the case they need to contact him in case of any issue. Focus is placed upon verbal communication and interaction in the local language because of high illiteracy levels. Any incidents or accidents occurring would be communicated using the above-mentioned forums.

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:

Owing to literacy problems, most of the cyanide information is supplied through verbal briefings of community leaders who then take the information back to villages. Monitoring data is provided to government officials according to legal reporting requirements. Procedure for emergency response classify incidents from levels 1 - 5. Policy requires, all level 3 to be reported to central and provincial government and to local government structures (which is relayed to local communities) from level 2. A Procedure for external environmental communication in place. Reference is made to Goldfields Academy briefing information on cyanide.