INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Cyanide Code Compliance Audit
Gold Mining Operations

Summary Audit Report

Gold Fields Australia
Agnew Gold Mine
Australia

15th – 19th September 2008
Name of Operation: Agnew Gold Mining Company Pty Ltd
Name of Operation Owner: Gold Fields Australia
Name of Operation Operator: Gold Fields Australia
Name of Responsible Manager: Mark Morcombe (General Manager)
Address: Sandstone Rd, Agnew
PMB 10, Leinster 6437
State/Province: Western Australia
Country: Australia
Telephone: (08) 9088 3822
Fax: (08) 9088 3824
E-Mail: agnew@goldfields.com.au

Location detail and description of operation:
Agnew Gold Mining Company Pty Ltd (AGMC), a wholly owned subsidiary of Gold Fields Australia, is located adjacent to the historical mining township of Agnew, 630km north-east of Perth and 26km southwest of Leinster.

AGMC’s Emu Processing Plant uses a carbon in pulp (CIP) process to extract gold from processed ore. The two stage Grinding Circuit has a Gravity Circuit which treats a stream of slurry fed from a Knelson Concentrator. The main component of this Gravity Circuit is an Inline Leach Reactor which is designed to accept high-grade gold concentrates and uses cyanide to leach the gold into solution.

The CIP process involves mixing milled ore with lime and water to form a 45% solids slurry with a pH of approximately 10. A cyanide solution is used to extract gold (Au) from the slurry. Carbon is added to the solution to capture gold via adsorption. The gold is then recovered from the carbon under high temperature and pressure using sodium hydroxide and sodium cyanide. Gold is plated onto stainless steel mesh via a process of electrowinning.

The primary waste product from the process is a slurry (tailings) containing reject fines, process chemicals and cyanide residues with an elevated pH. This tailings slurry is deposited into TSF3 (Redeemer In-pit Tailings Facility) which has been active since May 2004.
Auditor's Finding

This operation is

☐ 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: 3/5/2009

Dates of Audit: 15th – 19th September 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.

Agnew Gold Mine

Facility

Certified/notarized:-

BEVERLEY MYRILE NEL
Conveyancing Paralegal
Ewing McKeown Inc.
(Formerly Ewing Adams & Associates)
Commissioner of Oaths RSA
28 Old Main Road, Hillcrest 3610
REF: 9/1/8/2 Pinetown 18/11/2004

Agnew Gold Mine Signature of Lead Auditor Date: 30/4/09

Agnew Gold Mine Signature of Lead Auditor Date: 29th April 2009
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, CSBP/AGR, is an ICMI Code Signatory and has achieved full compliance in a verification audit against the ICMI Cyanide Code.

The combined supply and transport draft contract stipulates that the supplier must be signatory to the ICMI and must be ICMI Code compliant. Although a draft contract is in place and there is a letter of intent and executed interim Agreement to supply cyanide in compliance with the Cyanide Code, the final contract has not yet been signed by CSBP/AGR.

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:
CSBP/AGR, the mine’s cyanide manufacturer, also transports the liquid cyanide to site. The liquid cyanide is produced at AGR’s Kwinana production site in Australia and transported to Kalgoorlie station by rail in customised isotainers, and from Kalgoorlie station to the Agnew mine site by road transport. AGR’s cyanide transport activities are ICMI certified. Routes for dangerous goods transport are dictated by government. Although CSBP/AGR are Code certified for transportation, the final supply agreement, which covers lines of responsibility for safety, security, release prevention, training and emergency response, has not yet been signed by CSBP/AGR.

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 draft supply and transport contract for AGR stipulates that production and transport be certified under the ICMI. All carriers were accordingly shown to have compliant emergency response plans and capabilities. Although CSBP/AGR are Code certified, the final supply agreement, which covers lines of responsibility for safety, security, release prevention, training and emergency response, has not yet been signed by CSBP/AGR.

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:
CSBP/AGR own and supply the cyanide tanks located at the mine site. Detailed, professionally designed, drawings for the cyanide storage area were sighted which clearly indicated the structures were designed and located on concrete and away from people and surface waters. Secondary containment for the storage tank consists of a steel tank which provides a competent barrier to leakages and provides adequate and appropriate containment. Spills that occur during offloading will drain from the concrete offloading pad into the cyanide storage bund. Quality control documentation was sighted indicating the appropriate engineering checks were undertaken. The cyanide tank is equipped with manual and ultra-sonic level indicators and telemetric indicators which inform CSBP/AGR when cyanide supplies need to be delivered. Procedures covering cyanide delivery and unloading 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:**

There are no mixing facilities or solid cyanide storage areas as only bulk liquid cyanide is delivered and used on site. Procedures are in place to cover 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. Use is made of a sentry (“Buddy”) system to optimise safety and safe handling. Inspection checklists were sighted and interviews conducted which confirmed cyanide awareness and competency. All 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 a range of cyanide specific procedures for normal, abnormal and emergency conditions, which were thoroughly sampled, reviewed and found to be effective. The operation does not need emergency power to prevent unintentional releases because the plant is designed to pump slurries and solutions which, like the run off from the TSF pipeline, will gravitate back. The TSF consists of a pit fill operation, utilising a redundant pit for tailings which is supported by an operational manual and a procedure. An annual technical inspection of the TSF facilities is undertaken to ensure integrity and safety. A change management procedure is in place and functioning effectively.

Preventative maintenance and inspections are controlled by an electronic system called “PRONTO”. Key pumps, tanks, bunded areas and equipment in the plant and the TSF were checked on the system and found to be systematically maintained through visual and mechanical checks, thickness tests and historical reviews. Routine daily, weekly 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.

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:
The site has undertaken basic test work on the ores and a procedure is in place for the conducting of metallurgical and optimisation test work. Cyanide control is currently undertaken manually due to steady throughput and ore type but following evaluations for
the use of automated controls, new on-line cyanide and WAD control instrumentation will be installed and commissioned by mid-2009.

*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 and plant. The TSF consists of a pit fill operation, utilising a redundant pit for tailings which does not require the same controls as a normal tailings dam. Information is available on storm events, solution deposition and precipitation records are available for the site and adjoining locations as far back as 1948. Pipelines, return water pond and TSF are inspected four hourly and pond levels are surveyed monthly. A new weather station was commissioned in 2008. Procedures and plans are in place to manage normal and emergency conditions. 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 Code compliance points have been shown to be significantly less than 50 ppm WAD. 2008 data in the pond varied between 14 and 45 ppm WAD with an average of 30.5 ppm WAD. Daily wildlife monitoring is conducted and no cyanide-related bird, or wildlife mortalities have been experienced since the signing of the ICMI Code. Comments from Processing and Environmental staff indicate very few sightings of bird life in general on site. Observations of bird life flying into or around the TSF3 pit area are even rarer. No birds have been observed drinking from the tailings slurry flow at any point from the pipeline discharge to the Decant Pond. Very few bird deaths have been detected (<5 over a period of two years). The open pit and return dam are fenced off to prevent livestock and wildlife from entering the pit area.
Systems are in place to monitor open water WAD cyanide levels and investigate exceedances (40 ppm upper warning).

*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. All return water from the TSF is piped to return water ponds, and in turn pumped back to the plant. Special protection measures include concrete and rock protection of TSF pipes to prevent damage during any flooding of the dry creeks as well as regular inspections for potential seeps or wet spots on and around the following items and areas:-. Tails Return Water Line; Tee Pieces, Tailings Disposal Lines, Breathers, Diversion Drains, Bund Walls, and Drains. The latter inspections are required by the mining licence and carried out at least once every 12 hours.(sighted daily inspection log sheets.).

*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*
The mining licence does not identify beneficial users but does specify standards of less than 0.5 ppm WAD cyanide and there are down stream monitoring boreholes in place to protect any possible down gradient users. The in-pit TSF has a beach area and a floating pump for solution return to the plant. Any seepage from the in-pit TSF is monitored and managed. There is a licence requirement for ground water surveillance and the requirement for a management plan should there be a need to remediate water quality problems. The in-pit TSF has a beach area and a floating pump for solution return to the plant. The design concept incorporates an under-drainage system within the underground decline and drives below the southern and northern ends of the pit and a surface return
water system in order to maximise water return to the plant. Current and historical data indicates cyanide levels below the limits of detection.

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

in full compliance with

**The operation is X in substantial compliance with Standard of Practice 4.7**

not in compliance with

**Basis for this Finding/Deficiencies Identified:**
The site’s existing combined secondary containment area for the mill, ILR, leach, CIP and Elution is insufficient to contain 110% of the volume of the largest tank. There is one existing unlined containment area below the plant which may function as a containment area for certain parts of the plant, within the context of an emergency response scenario. A recent incident showed that containment was needed in this area. An engineering project, the Leach Tank Spill Containment Project, is in progress to refurbish and increase the existing containment area. Any release will be dealt with in terms of the scenarios in the emergency response plan. Furthermore, in the interim, soil bunds have been placed to direct any spills to a containment area away from personnel that is accessible for spill recovery and clean up, and condition monitoring inspections check equipment likely to contribute to a release. The Project also includes work to ensure that there is secondary containment for sections of the reagent strength pipeline from the storage area to the mill sump, and slurry lines from the residue transfer pumps to a plant exit point, which currently have no secondary containment and run over bare soil. The completion of this project forms a part of a Corrective Action Plan to meet Code requirements.

The basis for the substantial compliance finding was confidence in the emergency response capabilities to deal with releases and containment, based on the experiences of previous releases and the manner in which they minimised impacts upon health, safety and the environment. Whilst the condition is unsatisfactory, the interim risk to people until corrective action is complete is low as the plant is normally manned by a very small number of operators and emergency plans are in place to deal with reagent cyanide emergencies. Risk to environment is limited because of the dry conditions and deep or non-existent groundwater and inspections monitor pipeline condition and presence of leaks or weeping or oozing at flanges or valves.

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. Procedures were sighted covering pond inspections, solution water management, and stormwater management. TSF pipelines are also regularly inspected four hourly by a supervisor. There are no flowing streams but where TSF and return
water lines cross dry river beds, the pipes have been encased in concrete to prevent leakage.
Cyanide tanks and pipelines are manufactured from materials compatible with cyanide and high pH conditions.

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:
Reagent strength cyanide tanks are routinely inspected by CSBP-AGR, the cyanide manufacturers. As complete QA/QC data for the original plant was not available, several surveys were undertaken by appropriately qualified persons to confirm “fit for purpose”. These included a condition survey in the Ball Mill and CIL process area, QA/QC reports resulting from leach and adsorption tank refurbishment, and a formal inspection by external engineers of the leach and CIP civil structures. An Annual Tailings Storage and management review was carried out and a tails line and tails return line pipeline engineering study was also undertaken.
The PRONTO Preventative Maintenance System is in place which guides daily, weekly and monthly operational inspections covering all the operations involving cyanide equipment. The daily 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. Monitoring, sample preservation and custody and chain of custody procedures were developed by qualified staff and reviewed by an appropriately qualified external
consultancy. Owing to the dry nature of the environment, dry creeks and dry boreholes make monitoring difficult and results variable. Monitoring and inspections (including checks for bird mortalities and bird species on the TSFs) are guided by appropriate procedures and a Wildlife Monitoring Plan. The site’s water quality sampling regime was sighted which indicated sample sites, samples types to be taken, and frequency. Detail on sample points was reviewed and found adequate for sample point circumstances.

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.

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

not in compliance with

Basis for this Finding/Deficiencies Identified:
Site specific procedures are in place to ensure that planning and costing adequately covers cyanide decommissioning and closure. The Cyanide Storage facility is owned by cyanide manufacturers, CSBP/AGR, who have procedures for decontamination and removal. However, the final supply contract has not been signed and agreement has not been reached on decommissioning issues in the contract. This has been included in the Corrective Action Plan to ensure that cyanide decommissioning is appropriately dealt with. However, in the event of urgent decommissioning, legal focus would be on the site to manage and pay for the decommissioning to the satisfaction of the mining authorities, and thus there is no substantive risk to health, safety and the environment.
An implementation schedule forms a part of the plant decommissioning and Mine Closure Master Plan. This plan and supporting documentation is reviewed annually and external reviews are carried out every three years.

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

The operation is X in substantial compliance with Standard of Practice 5.2

not in compliance with
Basis for this Finding/Deficiencies Identified:
A Demolition Class II Estimate dated July 2008 was prepared which includes Third Party mill decommissioning as line items in detailed spreadsheets. External reviews of provisions are required every three years with the last review dated August 2006 and the next review planned for October 2008. Current financial documentation for decommissioning and rehabilitation covering the financial year 2009 was sighted and deemed adequate.
The Cyanide Storage facility is owned by cyanide manufacturers, CSBP/AGR, who have procedures for decontamination and removal. However, the final supply contract has not been signed and agreement has not been reached on decommissioning issues in the contract. This has been included in the Corrective Action Plan to ensure that costs of cyanide decommissioning is appropriately dealt with.

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 is a full and detailed framework of procedures in place and functional which cover the minimising of worker exposure to cyanide during all cyanide-related tasks. Site procedures were extensively checked through examination and interview. Checks and balances are in place through worker involvement in risk assessments and HAZOPs. The change management system on site is proceduralised and evidence indicated that it functions effectively. Appropriate PPE and pre-work inspections and checks are specified in procedures for all cyanide-related tasks.

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 level is set at 10.2 and the operation uses slaked lime fed to Ball Mill 1, coupled with a pH probe at Leach Tank 1 to control pH. “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 dry powder 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. Warning signs were verified including the presence of cyanide in the plant, eating and drinking and general PPE requirements. 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 was found to be appropriate and acceptable. An appropriate accident and incident reporting and investigation procedure was 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:
Emergency Services Officers (ESOs), emergency first aid equipment, antidotes (stored in Emergency Services Department fridge, according to manufacturer’s recommendations), medical oxygen and BA (Breathing Apparatus) sets are located at the Emergency Response Station at the plant gate. The Cyanide Alarm is raised using two way radios which are carried by all personnel. Emergency equipment is checked weekly and tested and mock drills are held on site and in conjunction with the Leinster medical clinic. Documentation is in place confirming arrangements for cyanide emergencies with the Leinster clinic and the Flying Doctor service. There are written procedures in place to respond to cyanide releases. The emergency response consists of two stages: the shift personnel in stage one will report the emergency don PPE, decontaminate the victim and administer oxygen. In stage 2, ESOs will respond and provide advanced emergency services, including final decontamination, continued oxygen administration, administering of amyl nitrate, and transportation to the Leinster Medical Clinic, where
the clinic doctor will decide on further action. 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 response 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.

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:
Employees were involved in the risk assessment to develop the emergency scenarios and response in the emergency response plan and procedures. Full cycle drills are used to involve Leinster medical clinic staff in planning processes. The role of external responders which includes medical facilities, mine site mutual aid, Fire and Rescue or communities in Emergency Response is to report directly to the Emergency Services/Security Superintendent or alternative on arrival to site. Although there are
limited numbers of site personnel and local stakeholders or community members, the few that are affected are identified in the Plan and in terms of appropriate communication.

*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 response teams are identified using the weekend and standby rosters. Duties and responsibilities of emergency response personnel are detailed in emergency management team duty cards, the Emergency Management Guidelines, and in job descriptions of key personnel. Mock drills (day time and night time) have been used to check response, understanding and application of tasks and improve efficiencies. Due to limited site numbers, authority to commit necessary resources rests in the vested operational authority.

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. 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 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. Only the local hotel has been identified as needing to be contacted.
**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 environmental 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. Sampling procedures also cover remediation issues.

**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 annually following incidents and emergency drills or when new information regarding cyanide becomes available. A full cycle drill to the Leinster medical clinic which included a cyanide spill and a 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**
The operation is in substantial compliance with Standard of Practice 8.1

not in compliance with

Basis for this Finding/Deficiencies Identified:
Every employee receives CSBP/AGR based cyanide awareness training which includes cyanide recognition, cyanide effects, cyanide first aid, spills and decontamination. Four randomly selected employees were checked in oral interviews on their understanding of cyanide hazards, first aid and emergency response and this was also verified through checking of their training records. Cyanide awareness refresher training is conducted two yearly and cyanide first aid refresher training is conducted annually.

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. Procedures are used as the training source material. Supervisors assess employees after training and also carry out on-the-job observations to test training effectiveness and application. A documented and detailed record of assessment is kept as a part of the recording of employee competency (“Recognition and Development Review process”). Records are kept by the OHS and HR Departments and task training records are kept at the Metallurgy Department. Site specific training is given by shift coordinators who are trained as trainers. General induction training is given by Environment, Health and Safety staff and specialised training is conducted by external qualified trainers.

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 man-down response, and protecting themselves. The mill personnel including operations, maintenance, crushing and stores, are trained in cyanide first aid, cyanide release and HCN poisoning, decontamination, use of medical oxygen and resuscitators. A separate emergency response team deals with second stage response and advanced treatment and rescue. Advanced training is given to the emergency response team. 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. Refresher training for the emergency response team is scheduled 6 monthly.


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 mine holds community open days every two years which include a mill tour and description of the cyanidation process. The tours are advertised locally on Leinster community notice boards and through invitations emailed to all site staff. Information brochures are also placed at the Agnew hotel and other community locations with contact telephone numbers. Cyanide management information covering Agnew Mine is reported on the cyanide management section of the Agnew Mine page of the Goldfields website.

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 mine holds community open days every two years which include a mill tour and description of the cyanidation process. These are opportunities for two way dialogue with
stakeholders. The tours are advertised locally on Leinster community notice boards and through invitations emailed to all site staff. Information brochures are also placed at the Agnew hotel and other community locations with contact telephone numbers. Cyanide management information covering Agnew Mine is reported on the cyanide management section of the Agnew Mine page of the Goldfields website.

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:
The site has developed brochures which contain written descriptions of how activities are conducted and how cyanide is managed. These brochures are placed at the Agnew Hotel, Leinster community notice boards, the Goldfields website, the Leinster camp mess, and other static displays. Agnew Mine stakeholders are overwhelming literate but some indigenous stakeholders have limited literacy skills and interaction is verbal and often not recorded out of respect for cultural beliefs.

All significant environmental and community incidents are contained within the Goldfields annual report. All lost time injuries are reported to the Department of Consumer and Employment Protection (DEC) of the Government of Western Australia who make the information public through information briefs and a quarterly mine safety magazine. Cyanide releases would be made publically available via the DEC website upon release of the annual Audit Compliance report, typically in July of each year. Any cyanide incidents at Agnew Mine will be reported on the cyanide reporting update section of the Agnew Mine page of the Goldfields website.