

***INTERNATIONAL CYANIDE
MANAGEMENT INSTITUTE***

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

Summary Audit Report

***Gold Fields Australia
St Ives Gold Mine Lefroy Mill and St Ives
Heap Leach Gold Plants***

8th to 12th September 2008



Name of Operation: St Ives Gold Mine

Name of Operation Owner: Gold Fields Ltd

Name of Operation Operator: Gold Fields Ltd

Name of Responsible Manager: Arno Dippenaar, Processing Manager

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Location details and description of operation

St Ives is located 80 kilometres south of Kalgoorlie, near Lake Lefroy in the Eastern Goldfields region of Western Australia.

About 5 million tonnes of ore, comprising 1.95 million tonnes from underground and 3.05 million tonnes from the open pit operations, are treated annually using a single stage closed circuit SAG mill and CIP technology. An additional 2.4 million tonnes are treated by heap leaching. The new Lefroy mill construction was completed during December 2004 and commissioned during that same period. The circuit includes a 13MW gearless motor drive, which is variable speed and bi-directional. A state-of-the-art gravity circuit ahead of leaching is designed to recover 30% of the gold. The recovery circuit consists of a five tank leach train, six stage pump cell circuit with an active carbon inventory of 30 tonnes and 15 tonnes in the stripping/regeneration circuit.



Auditor's Finding

This operation is

- in full compliance
- X 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: 8th – 12th 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.

Gold Fields St Ives Gold Mine

Facility

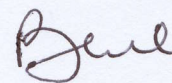
Signature of Lead Auditor

Date

30/4/09

Certified/notarized:-

BEVERLEY MYRTLE NEL
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Commissioner of Oaths RSA
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Gold Fields St Ives Gold Mine Signature of Lead Auditor

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. The aspects still being negotiated relate to liabilities and decommissioning.

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 St Ives 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 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 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:

Detailed, professionally designed, drawings for the cyanide storage area carried out by AGR were sighted which clearly indicated the structures for Lefroy Mill and Heap Leach were designed for cyanide and located away from people and surface waters. Any spillage on the concrete offloading pad will drain into the storage bund area. CSBP/AGR own and supply the cyanide tanks located at the mine site. The cyanide area is fenced and security controlled with adequate controls and separation to prevent mixing with incompatible materials. The cyanide tanks are 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. Secondary containment for the storage tanks is concrete at Lefroy Mill and a steel construction at the Heap Leach which provides a competent barrier to leakages and provides adequate and appropriate containment. Quality control documentation was sighted indicating the appropriate engineering checks were undertaken.

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:

Only bulk liquid cyanide is delivered and used on site and thus there are no operational mixing facilities or solid cyanide storage areas. There is also no need to dispose of empty cyanide storage containers. There are detailed procedures in place covering the step by step handling of cyanide during offloading. Procedures are also in place to cover liquid spill responses, should they occur. Use is made of a sentry (“Buddy”) system to optimise safety and safe handling. All procedures include step by step task and hazard identification, specify PPE requirements, and appropriate actions for normal, abnormal and emergency occurrences. Regular documented inspections are undertaken by shift staff and these are supported by regular inspections by safety officers and management. All cyanide facilities are covered in the preventative maintenance system, with defined maintenance frequencies.



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 Lefroy Mill and heap leach facility has a range of cyanide specific procedures for normal, abnormal and emergency conditions, which were thoroughly sampled, reviewed and found to be effective. A detailed 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 related to the heap leach 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 that ensure proactive and reactive management. Whilst no specific need for emergency power to prevent unintentional releases has been identified, emergency power is available at the Heap Leach and the generating equipment is included on the PRONTO PMS system.

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:

Basic test work was undertaken on the thirteen different ore types available during the design phase of the new plant. Leach profiles are taken on a weekly basis and cyanide addition rates are determined, based on the results. In the plant, strategies evaluated include use of on-line cyanide analyses, and control algorithms. The heap leach has manual control and titration with PLC ratio control for cyanide addition to the agglomeration drum. A TAC 2000 cyanide analyser and cascade control is used in the plant and plans are in place to install an on-line WAD analyser.

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:

Comprehensive, probabilistic water balances are in place for the plant, TSF and Heap Leach using various frameworks such as the @RISK Monte Carlo model and the Siberian model. Procedures and inspection regimes are in place to manage freeboard, return water pond, storm water pond and heap leach pond levels. Water level indicators report to the SCADA system in the control room. Pipelines, return water pond and TSF are inspected three times per day. Procedures and plans are in place to manage normal, abnormal and emergency conditions. Use is made of site and Kalgoorlie weather station precipitation data and data is reviewed annually. 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.

- in full compliance with

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

- not in compliance with

Basis for this Finding/Deficiencies Identified:

Owing to high salinity, cyanide dosing levels are higher, resulting in WAD cyanide levels on the TSF ranging between 40 and 120 ppm WAD CN, at salinity levels of 50,000 ppm



TDS and above. The site has reported no wildlife mortalities since signing to the Code. In order to understand the influences on hyper salinity on wildlife mortality from cyanide, a detailed, peer-reviewed study (Summary published separately) has been undertaken to establish site specific relationships and to provide a scientifically based alternative operating WAD cyanide level which is above 50ppm WAD, but at a level shown to be protective of wildlife. The study concluded that TDS (salinity) levels of 50,000 ppm and above in water bodies are not conducive as a drinking source for wildlife and are therefore a protective mechanism. The study, supported by the peer reviewers, recommended WAD cyanide operating parameters of between 112 and 132 ppm WAD CN, at a TDS of 50,000+ ppm and 46 ppm Cu at the spigot and 65 ppm WAD CN at a TDS of 50,000+ ppm and 44 ppm Cu in the supernatant pond.

TDS levels on the heap leach vary between 50,000 and 200,000 ppm. An extrapolation of the Study results would suggest that any ponding on the heap would not be conducive to drinking by wildlife. This, combined with detailed controls covering agglomeration, netting of selected solution ponds, stacking using grasshopper conveyors, a flattened top of the heap, surface ripping to optimise percolation rates and detailed control of irrigation rates, appear to be effective in preventing wildlife mortalities. Near daily samples of Spigot Discharge and Decant Pond solution are taken and analysed onsite for TDS and Cu and dispatched for WAD CN. The intention is to set up WAD CN analysis in the onsite met lab then ultimately install online WAD CN analysis on our Thickener Discharge to give a quicker turn-around of WAD CN measurements. Until then a formula of Free Cyanide concentration and Cu assay is used to estimate discharged WAD CN concentrations. Trigger thresholds equivalent to 112 and 132 ppm WAD are set up to instigate dilution within the thickener and/ or tailings hopper should they be breached.

A Corrective Action Plan has been agreed upon which calls for revised operating parameters, procedures and activities using the recommended target values and associated systems to manage these parameters under normal, abnormal and emergency conditions. The site will provide operating data and results for a six month period, using the revised systems, procedures and activities and, where appropriate, demonstrating how the systems are used to manage variability and thus prevent increased risk of wildlife mortality. There is no deemed Safety, Health and Environmental risk during the implementation of the CAP because the site is, in practice, meeting the standards recommended in the study.

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:

There is no direct or indirect discharge to surface water taking place. Furthermore, all water in the area is hyper saline water. Boreholes are used to monitor any potential contamination of the saline lakes via seepage. The heap leach pads are equipped with geomembranes and all solutions drain into lined solution channels, tanks and solution ponds. All solution is reused in the plant.

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. Cut off trenches are in place around the TSF with mini-boreholes in place to return TSF seepage. Production boreholes are used to recover larger volumes of seepage from the TSF to the decant pond, from where the return solutions are pumped back to the plant. Current and historical data indicates cyanide levels below the limits of detection. St Ives mining permit establishes a limit of 0.5mg/l WAD cyanide for groundwater drawn from monitoring boreholes on site. The heap leach pads are designed with a combination of clay (300mm) and HDPE liners and heap ponds are double lined with leak detectors. There are no identified downstream beneficial users. Material from the top of a decommissioned TSF is used as paste fill for underground. However, a study carried out concluded that the risk of contamination to ground water and potential health impacts (water and gas) was negligible.

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:

Reagent strength cyanide storage tanks are placed in a concrete bund area and leach tanks are placed within a concrete bund. Tanks are subject to thickness testing and are

inspected using the PRONTO preventative maintenance system (PMS). Overall, a linked secondary containment system provides sufficient containment to meet abnormal and emergency conditions. In order to cater for a containment deficiency of storage facilities in the thickener and tails disposal area, a clay wall, clay lined storage dam has been constructed to manage the deficiency. The dam is maintained empty and any spills to the area must be cleaned up in a timely manner, according to the Cyanide Spill Ground Decontamination procedure. 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 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. Procedures were sighted covering pond inspections, solution water management, and stormwater management. TSF pipelines are also regularly inspected.

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:

Quality control records and inspections for reagent strength cyanide tanks were commissioned by the tanks owners, CSBP/AGR, and were sighted, as well as QC records for the entire mill. The heap leach liners were subject to quality control tests (mechanical and vacuum), overseen by consulting engineers. The mill and heap leach plant were also inspected by a corrosion engineering specialist. Annual Tailings Storage and Management Reviews are carried out on the TSF, checking on safety and design. 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 groundwater for cyanide. Monitoring, sample preservation and custody and chain of custody procedures were developed by qualified staff at the Australian Commonwealth Scientific and Industrial Research Organisation. Monitoring and inspections (including checks for bird mortalities and bird species on the TSFs) are guided by a wildlife monitoring procedure. The site's water quality sampling regime was sighted which indicated sample sites, samples types to be taken, and frequency. Detail on sample points and frequencies was reviewed and found adequate for sample point circumstances. Sampling frequencies are dictated by government requirements and any changes must be approved by government.

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.

in full compliance with

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. Procedures and a high level cyanide facility decommissioning schedule were sighted. The Mine Closure Plan which includes the cyanide decommissioning arrangements is reviewed at least biannually and updated as and when new facilities are commissioned.

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.

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

in full compliance with

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

not in compliance with

Basis for this Finding/Deficiencies Identified:

St Ives Gold Mine Demolition provision estimates were sighted and a review of the closure provision, updated by rehabilitation specialists, included provision for decontamination. Costs are reviewed annually and Australian law requires the establishment of an environmental performance bond.

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 third party 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. There is also a separate set of critical hazard standards which include integrated safety management issues. The site has a fully integrated Environmental, Health and Safety management system and the associated procedures were extensively checked through examination and interview. Non-routine tasks require job hazard analyses (JHAs) which include PPE requirements, pre-work inspections and precautions, isolation permits and confined space entry permits, as appropriate. The change management system on site is proceduralised and evidence indicated that it functions effectively. There is input from all

levels in the workforce in the change management process. 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:

Recent work carried out on optimising pH resulted in lower cyanide consumption. This is part of a phased testing program to increase pH levels and evaluate impact on safety, cyanide consumption and cost. 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. Appropriate warning signage covering cyanide presence, smoking, and eating and drinking prohibition was sighted. A site wide pipe colour coding system is in operation which includes cyanide pipe colour coding and directional flow signage. MSDSs and cyanide first aid information in English was sighted. All employees in risk areas and hot spots carry mobile HCN gas monitors and these 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. Although there have been no cyanide incidents, accident and incident reporting and investigation procedures 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:

Trained paramedics, emergency first aid equipment, antidotes, medical oxygen and BA (Breathing Apparatus) sets are located at the First Aid Station at the plant gate. All personnel carry two way radios and the cyanide alarm is raised using Channel 2. Emergency first aid equipment is checked monthly using an annual compliance schedule. Mock drills are held on site periodically and in conjunction with the Silverlake Medical Centre and the Kalgoorlie Regional Hospital. Checks confirmed that the Kalgoorlie hospital is adequately equipped and staffed to handle cyanide emergencies and cyanide patient evacuation plans form part of the ERP. 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 emergency response plan combines existing procedural responses and emergency provisions to deal with the various cyanide-related scenarios and is supported an Emergency and Crisis Management Plan, Transportation Management Plan and Emergency and Crisis Management Guidelines. For transportation related cyanide emergencies, there is a CSBP/AGR transportation management plan and AGR has a fully trained emergency team based in Kwinana and equipment stationed at Kalgoorlie. These emergency preparations are regularly reviewed in the light of changes, mock drill learning points and employee feedback. No community members are specifically affected but plans include clearing site personnel.

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

X in full compliance with



The operation is in substantial compliance with **Standard of Practice 7.2**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

The Emergency Response Plan was circulated to key stakeholders and a discussion forum was held with the Kambalda police, volunteer fire brigade, St John Ambulance service, local tow service and local Emergency response Teams. The Plan was distributed to all affected disciplines in the plant. A St Ives Mine cyanide management poster which includes ERP details has been prepared and was posted in public places, and passed out at community forum meetings.

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 Plan details clear duties, roles and responsibilities for the various emergency scenarios. 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 internal and external reporting and the call-out procedure and contact information lists which are updated regularly. Media communication is done via a formal procedure.

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 Response Plan refers to clean-up and remediation relating to releases, 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.

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 following every mock drill and cyanide incidents. The frequency of mock drills is stipulated in a schedule contained in the Plan.

8. TRAINING: Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

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

X in full compliance with

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

 not in compliance with

Basis for this Finding/Deficiencies Identified:

Cyanide is covered in site specific induction for all staff working in cyanide areas. A full cyanide induction, based upon the AGR training programme, is given to all full-time staff. The training is checked through a written assessment and practical demonstration. Refresher training is conducted annually and this was checked in interviews with staff. All training records are retained for 75 years from date of birth, as per legal requirement. Current records are retained on site and obsolete records are archived in Perth.

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:

Procedures are in place that cover all tasks and training of operational and maintenance personnel is carried out by frontline supervisors. All staff must be trained before being permitted to work with cyanide unsupervised. Training is also done against a national standard (Metalliferous Mining – Processing). There is a generic training module in place, with specific modules constructed for each area of the plant. Use and control of cyanide in the specific area is contained in a separate module for each circuit. Agglomeration and ILR training is regarded as high risk and training material is more specific to the risk involved. Upper level training is given by a certificated trainer and lower training being given by shift supervisors who are encouraged to develop their training skills and qualifications. Cyanide training is refreshed annually. Task observations, the tool used to test training effectiveness, are performed and frequency is prescribed.



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:

Specific procedures for handling cyanide releases have been written and implemented. Training includes the basic induction module covering general cyanide awareness. Personnel working in cyanide areas receive the more advanced AGR based cyanide training where more detail on cyanide first aid is given. Mock drills are conducted to test response and training effectiveness. Qualified Emergency Services Officers (trained in cyanide emergencies) are stationed at the emergency services section outside the plant. Emergency information has been provided to main stakeholders and there is liaison with the emergency team of neighbouring mines and operations in case of mutual aid requirements. The Emergency Services Officers have a training schedule and the Emergency Team is assessed externally by a specialised emergency response company.

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:

Stakeholders can communicate concerns via a hotline telephone linked to the Gold fields office in Perth, via the local offices, and issues can be raised when the mining licences are renewed. The Goldfields website is used as a means of communication. Contact telephone numbers are displayed upon the St Ives cyanide management poster which has been widely distributed and quarterly community forums are held locally in Kambalda. There is a longer term programme to use the AA 1000 (AA1000 Stakeholder Engagement Standard (AA1000SES)) initiative to have more focussed stakeholder engagement.

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 has produced a St Ives cyanide management poster which provides information on cyanide, cyanide management and cyanide emergencies. Stakeholders are invited on site tours and various professional association meetings are hosted on site. Senior management attend quarterly community forums and the site's community coordinator maintains on-going contact with the community.

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 mine has produced a St Ives cyanide management poster which provides information on cyanide, cyanide management and cyanide emergencies. Stakeholders identified include the Kambalda police, Kambalda Volunteer Fire Brigade, St Johns ambulance organisation, local towing service, and the Mines Rescue sections of Mincor, BHP Billiton, Beta-Hunt and Lanfranchi.

All significant environmental and community incidents are contained within the Gold fields Annual Report. All lost time injuries are reported to the Department of Consumer and Employment Protection (DoCEP) of the Government of Western Australia who make the information public through information briefs and a quarterly mine safety magazine. Cyanide releases are required to be reported in the site's Annual Environmental Report (AER) submitted to the DEC (Department of Environment and Conservation), typically in July of each year, and made publically available from the DEC upon request or at the local shire office.

