



March 2011

INTERNATIONAL CYANIDE MANAGEMENT CODE CERTIFICATION AUDIT

Barrick Gold of Australia Limited Granny Smith Gold Mine Certification Audit Summary Audit Report

Submitted to:

International Cyanide Management Institute
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Washington, DC 20006
UNITED STATES OF AMERICA

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REPORT



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SUMMARY AUDIT REPORT FOR OPERATIONAL GOLD MINES

Name of Mine:	Granny Smith Gold Mine.
Name of Mine Owner:	Barrick Gold Australia Limited
Name of Mine Operator:	Barrick Gold Australia Limited
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LOCATION DETAIL AND DESCRIPTION OF OPERATION:

Globally Barrick has 27 operating mines, located in some of the world's most prospective gold districts in North America, South America, Australia-Pacific and Africa.

Barrick's Australia-Pacific Business Unit is headquartered in Perth, Western Australia and comprises 8 operating mines: the Kalgoorlie Consolidated Gold Mine JV, Kanowna, Granny Smith, Plutonic, Darlot and Lawlers gold mines in Western Australia; the Cowal gold mine in New South Wales; and the Porgera gold mine in Papua New Guinea.

The Granny Smith open-pit gold mine is located 950 km north-east of Perth and 23 km south of Laverton in the state of Western Australia.

Granny Smith processing plant consists of two-stage fresh ore crushing circuit with closed circuit screening and a single-stage oxide ore crushing circuit, a semi-autogenous grinding circuit in closed circuit with a cone crusher, an agitation leaching and carbon-in-pulp circuit, tailings gravity retreatment plant with fine grind, a gold recovery plant with carbon reactivation, and a tailing thickener.

As well as ore provided from the Granny Smith Wallaby underground mine, Granny Smith purchases ore from Crescent Gold Limited and Range River.



SUMMARY AUDIT REPORT AUDITORS FINDINGS

The Granny Smith Gold Mine is:

in full compliance with

in substantial compliance with

not in compliance with

**The International
Cyanide Management
Code**

Audit Company:

Golder Associates




Audit Team Leader:

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Name and Signatures of Other Auditors:

Name	Position	Signature	Date
Edward Clerk	Lead Auditor and Technical Specialist		23 March 2011
Russell Beazley	Auditing Support		23 March 2011
Jaclyn Goad	Auditing Support		23 March 2011

Dates of Audit:

The Certification Audit was undertaken over four days (12 person-days) between 27 and 30 June 2010. A two week extension for audit report submission was granted by the ICMI.

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's *Gold Mining Operations Verification Protocol* and using standard and accepted practices for health, safety and environmental audits.

Granny Smith Gold Mine

Name of Facility



Signature of Lead Auditor

23 March 2011

Date



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PRINCIPLE 1 – PRODUCTION

Encourage Responsible Cyanide Manufacturing by Purchasing from Manufacturers that 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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 1.1

not in compliance with


Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 1.1, requiring the operation to 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.

Granny Smith purchases its sodium cyanide from Australian Gold Reagents Pty Ltd (AGR) under a DRAFT Blanket Purchase Agreement for the supply of Sodium Cyanide. Although the DRAFT Blanket Purchase Agreement has not been finalised, AGR was recertified under the Code on 24 November 2010.

Cyanide shipping documents held by Granny Smith provided no evidence to suggest that the operation receives bulk delivery of cyanide from any other producer.

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PRINCIPLE 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.

in full compliance with

The operation is in substantial compliance with **Standard of Practice 2.1**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 2.1, requiring that the operation establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

Granny Smith purchases its sodium cyanide from AGR under a Draft Blanket Purchase Agreement. AGR, which is both the cyanide producer and transporter, was re-certified as a transporter under the Code on 19 April 2010 following ICMI's acceptance of a Detailed Audit Report dated April 2010 verifying compliance with the Code.

The certification of AGR's cyanide transport activities assures that the designation of responsibilities during transport has been adequately addressed.

The cyanide shipping documents provided no evidence to suggest that Granny Smith receives bulk delivery of cyanide from any other producer.

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

in full compliance with

The operation is in substantial compliance with **Standard of Practice 2.2**

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:


Granny Smith is in FULL COMPLIANCE with Standard of Practice 2.2, requiring that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

Granny Smith purchases its sodium cyanide from AGR under a draft Blanket Purchase Agreement.

AGR, the cyanide transporter, was re-certified under the Code on 19 April 2010 following ICMI's acceptance of a Detailed Audit Report dated April 2010 verifying compliance with the ICMI Code Transportation Protocol dated October 2009.

Granny Smith has records demonstrating that cyanide it receives is transported in accordance with AGR's transport certification.

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PRINCIPLE 3 – HANDLING AND STORAGE

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

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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 3.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 3.1, requiring that cyanide handling and storage facilities are designed and constructed consistent with sound, accepted engineering practices, quality assurance/quality quality (QA/QC) procedures, spill prevention and spill containment measures.

Facilities for unloading and storing cyanide have been designed and constructed in accordance with the cyanide producers’ guidelines. A recent inspection of these facilities by AGR concluded:

“The refurbishment and the modifications made to the cyanide facility... have made it compliant with D[angerous] G[oods] Regulations and AU/NZ Standards for the safe storage of sodium cyanide solution.”


Unloading and storage areas for liquid cyanide are located away from people and surface waters. The nearest surface water is Windich, a former open pit that now forms part of Granny Smith’s raw water system. Windich is more than 200 metres from the reagent cyanide area to the south-east. The nearest surface water body outside Granny Smith’s control is Lake Carey located 13 km to the south-west. AGR has assessed that the distance between the reagent cyanide installation and office buildings, warehouses, processing area, workshops and amenities areas is greater than 15 m as required by Dangerous Goods regulations.

The unloading facility at Granny Smith is located on an impermeable concrete slab to minimise seepage of spilt liquid cyanide to the subsurface. The slab is slightly graded to drain preferentially into a sump that can be pumped clear to the Cyanide Reagent Storage Bund.

The cyanide unloading area at Granny Smith is designed and constructed to contain, recover or allow remediation of any leakage from the tanker truck. The facility consists of an isotainer unloading bay sufficient for one isotainer at a time to be accessed from an unloading tower immediately above it. Whilst the isotainer is aligned to the unloading tower immediately above it, the isotainer is inherently located on a graded slab of concrete that will catch any drips of reagent cyanide that may be released during the operation and prevent minor drips and spills from reaching the ground. Rollover bund walls at the entrance and exit to the pad, a kerb wall on the edge remote from the existing bund wall and bollards to help prevent passing traffic tracking dirt onto the pad were installed. A sump and pump are also present to remove liquid to the Cyanide Reagent Storage Bund.

Several methods exist to prevent overfilling of the cyanide storage tank at Granny Smith. Prior to unloading, the tank level is checked to ensure it has the required capacity to receive the cyanide delivery. A high level alarm is triggered at 91% full and the unloading observer stops the unloading process promptly by isolating the flow of air. In the event that the observer is not capable of manual shutoff should a visual and audible alarm is triggered, a solenoid-activated valve isolates and vents the air line.

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Cyanide mixing and storage tanks are located on and banded by concrete, which acts as a competent barrier to leakage through and seepage to the environment.

Cyanide is stored:

- With adequate ventilation to prevent the build up of HCN gas. AGR has assessed the unloading facility as configured in compliance with Dangerous Goods regulations to ensure that it is protective of personnel working on the drivers' platform during unloading
- Only as a liquid so there is no need for measures to minimise the potential for contact of solid cyanide with water
- In a secure area where public access is prohibited via a gated fence around the cyanide storage area
- Separately from incompatible materials. There is a facility for unloading and storage of hydrochloric acid adjacent to the cyanide reagent unloading and storage facility. The recent installation of bunding, as mentioned in the response to 3.1.4 above, means there is a low risk of hydrochloric acid and cyanide reagent mixing in an uncontrolled situation

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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 3.2

not in compliance with


Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 3.2 requiring that cyanide handling and storage facilities are operated using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

Only reagent cyanide is used at Granny Smith, which is unloaded from truck-mounted isotainers into a Cyanide Storage Tank. The isotainers remain on the truck throughout delivery and remain under the control of the supplier at all times.

Standard operating procedures have been developed and are implemented to manage cyanide unloading and storage activities effectively and safely. Clear attention has been paid to the role of the Granny Smith representative whose role in unloading is complementary to the AGR truck driver. The Granny Smith representative observes the delivery Driver from a safe location throughout the unloading operation and ensures that appropriate personal protective equipment is used by the driver.

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PRINCIPLE 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 including contingency planning and inspection and preventive maintenance procedures.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 4.1, requiring that the operation implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures.

The operation has plans and procedures for facilities including unloading and storage facilities, leach plants and tailings impoundments. The plans and procedures describe the standard practices necessary for the safe and environmentally sound operation of the facility, including the specific measures needed for compliance with the code, such as inspections and preventative maintenance activities.

The plans and procedures identify the assumptions and parameters on which the facility design was based and any applicable regulatory requirements.

Granny Smith uses Barrick's global change management procedure, to identify when changes in the site's processes or operating practices may increase the potential for the release of cyanide and to incorporate the necessary release prevention measures. The procedure triggers a requirement for signoff of change by environmental and health representatives when changes related to facilities and operations involving cyanide facilities. Evidence was made available to the auditor that showed the change management procedure being followed in full.


Cyanide management contingency responses have been developed for situations when there is an upset in a facility's water balance, when inspections and monitoring identify a deviation from design or standard operating procedures, and/or when a temporary closure or cessation of the operation may be necessary and these are generally described as troubleshooting guides within the training manuals.

The operation inspects cyanide facilities on an established frequency sufficient to provide assurance and that the facilities are functioning within design parameters. A risk assessment was conducted to determine the appropriate inspection frequency for each area.

Granny Smith inspects the following at unloading, storage, mixing and process areas:

- Tanks holding cyanide solutions for structural integrity and signs of corrosion and leakage through a combination of daily and monthly inspections and a preventative maintenance schedule based on a Risk Based Inspection (RBI) programme
- Secondary containments for their integrity, the presence of fluids and their available capacity, and to ensure that any drains are closed and, if necessary, locked, to prevent accidental releases to the environment
- Leak detection beneath the Process Water Storage Pond on a monthly basis
- Pipelines, pumps and valves for deterioration and leakage

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- Ponds and impoundments for the parameters identified in their design documents as critical to their containment of cyanide and solutions and maintenance of the water balance, through per shift, monthly and six monthly inspection regimes

Inspection records provided to the auditor demonstrated inspections are being undertaken as per the established frequencies, with the date, name of inspector and observed deficiencies being recorded. The use of work orders for observed deficiencies allows the nature and date of corrective actions documented to be documented.

Preventive maintenance programmes are implemented and activities documented to ensure that equipment and devices function as necessary for safe cyanide management.

Oracle software is used to administer schedules, requirements and records of routine preventive maintenance activities. A review of preventative maintenance schedules of cyanide critical equipment and discussions with the Maintenance Superintendent and Maintenance Scheduler confirmed that preventative maintenance inspection reports had been developed and scheduled for all cyanide critical equipment and to conform to the RBI requirements.

The operation does not require emergency power resources to operate pumps and other equipment to prevent unintentional releases and exposures in the event its primary source of power is interrupted. Two air receivers ensure sufficient back up supply of motive air to operate the isolation valves in the feed lines to the Leach Tank train and the CIP Tank train to prevent overflow of the tank cascade under gravity under power failure conditions.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:


Granny Smith is in FULL COMPLIANCE with Standard of Practice 4.2, requiring that the operation limit the use of cyanide to that optimal for economic recovery of gold so that the waste tailings material has as low a cyanide concentration as practical.

The operation conducts an ongoing program to review appropriate cyanide addition rates in the mill, evaluating and adjusting addition rates as necessary when ore types or processing practices change with consequences for cyanide requirements. Trial work has been conducted prior to the introduction of new ores. The metallurgical test work and plant performance has identified that the optimum cyanide addition rate occurs when maintaining approximately 210 to 230 mg/L in Leach Tank LT0 when operating with ore from the Wallaby pit and 150 to 170 mg/L when operating with ore from the pits mined by Crescent.

Daily bottle roll test work is undertaken as part of the process of ongoing review. Over time, the control concentration has been reduced from around 400 mg/L.

Cyanide addition rates are adjusted automatically to maintain set point, using measurements available every ten minutes for 75% of the time to adjust the rate of addition. On-line measurements are collected for monitoring purposes for 25% of the time from further downstream in the leaching train. Titrations are prepared manually on a four hourly cycle from the two locations that are analysed automatically as a cross check against the calibration of the on-line instrument and an additional location at the end of the processing train is also monitored manually as a check on the effectiveness of cyanide utilisation in the leaching

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process. The current control scheme has been in place for around ten years. The use of lead nitrate to reduce cyanide usage has been investigated, but was not taken up on a continuing basis.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 4.3, requiring the operation to implement a comprehensive water management programme to protect against unintentional releases.

The operation has developed a comprehensive and probabilistic water balance for the site.

The water balance considers the tailings schedule, which refers to where within in the TSF (i.e. which cell) the tailings will be deposited. It also takes into account the ore feed rate.

The model can take into account low, median and high long-term rainfall scenarios (based on the Laverton 1889 to 2006 rainfall data record-set from the Bureau of Meteorology) and short term design storm events of 72 hr 1 in 100, 500, 1,000 and 10,000 years. Granny Smith run their model quarterly using the high long term rainfall scenario and the 1 in 100 year 72 hour design storm event, the operation's TSF is designed to cope with a 1 in 100 year 72 hour storm event. The model uses Bureau of Meteorology data from the Laverton weather station, which is 23 km from the operation. Climatic pan evaporation data is modified based on water density (i.e. salt and maximum water density).

Based on site topography and paddock style design of the TSF, there is no risk of surface run-on from an upgradient watershed to the TSF. There is a potential risk for run-on from the TSF walls to collect in Windich Pit and the Process Water Pond. As such, the model includes a runoff factor (storage coefficient) and catchment area to assess the potential for runoff following a storm event into these facilities.

Freezing and thawing are not considered as they have not been recorded in nearby Laverton since records were first collected in 1899.

Seepage loss from the TSF to the seepage drains are accounted for in the water balance model, based on site measurements. Due to the low flow rates seepage does not have a significant impact on the model. There are no discharges to surface water at Granny Smith.


The model allows the user to set scheduled and emergency pump outages.

The model also takes into account the hypersaline water input used to reduce the WAD cyanide concentration in the tailings.

Granny Smith's operating procedures incorporate inspection and monitoring activities to implement the water balance and prevent overtopping of ponds and impoundments and unplanned discharge of cyanide solutions to the environment. The TSF is inspected four times per shift by the shift supervisor and monthly and six monthly as part of planned general inspections. These inspections include freeboard, supernatant pond size, embankment and pipe and valve checks.

Ponds and impoundments are designed and operated with adequate freeboard above the maximum design storage capacity determined to be necessary from water balance calculations. The TSF Operations Manual states that the TSF is considered to be at maximum sediment storage capacity when the available freeboard

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is reduced to 300 mm, whilst the water pond storage capacity is at maximum when the freeboard is reduced to 500 mm. The water balance was designed with these freeboards in mind. A visual inspection of the facilities confirms that the freeboard of both the TSF and Process Water Pond were in excess of 1 m.

The operation does measure onsite precipitation, but due to large amounts of historical data from the Laverton weather station, onsite precipitation data is not used on the water balance. The Bureau of Meteorology data for Laverton, which has been operational since 1889 and is located 23 km from Granny Smith. Laverton has comparable topographic conditions to Granny Smith, such that precipitation data is representative of conditions at the site.

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

in substantial compliance with

Standard of Practice 4.4

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:


Granny Smith is in FULL COMPLIANCE with Standard of Practice 4.4, requiring the operation implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

The Granny Smith has implemented measures to restrict access by wildlife and livestock to the TSF, which frequently has WAD cyanide in tailings discharges at the spigot and in the supernatant above 50 mg/l. The operation has begun injecting hypersaline water (50 000 mg/l TDS) into the tailings stream prior to discharge. A scientific study undertaken at Granny Smith concluded that this hypersaline injection acts as a wildlife protective measure (provided that certain recommendations, including operating parameters currently in place, are met). This is because the supernatant pooling on the TSF has a TDS above the physiologically safe drinking range of wildlife. Therefore, wildlife seek to avoid its ingestion whilst foraging. This conclusion was supported by a peer review panel, which assessed the report to check the assumptions, calculations, extrapolations, alternate interpretations, methodology, and conclusions of the study to ensure that the science is sound and the conclusions were well-founded. The peer review required that all the recommendations made in the scientific report be met. The auditor has received evidence that these recommendations have been met by Granny Smith.

The TSF is the only open water body at Granny Smith with WAD cyanide levels above 50 mg/l. No wildlife deaths attributable to cyanide have been recording in the TSF since the commencement of hypersaline injection or in any of the other water bodies with WAD cyanide below 50 mg/l.

The operation does not use a heap leach process.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.5

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 4.5, requiring the operation implement measures to protect fish and wildlife from direct or indirect discharges of cyanide process solutions to surface water.

The operation does not have a direct discharge to surface water. The nearest surface waterbodies are the Windich Creek (intermittent) and the disused Windich Pit. The Windich Pit receives water via aquifer recharge and through a diversion channel for the creek. No process water is discharged into either waterbody.

Groundwater and surface water monitoring does not indicate that the operation is indirectly discharging to these surface waterbodies.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.6

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 4.6, requiring the operation implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.

There are currently no designated or actual beneficial uses of groundwater beneath or immediately down gradient of the operation and there are no licensed regulatory numerical standards for WAD cyanide concentrations in the groundwater beneath or immediately down gradient of the operation.

The TSF has a series of seepage collection drains and sumps that collect seepage from which it is pumped back into the process.

The Process Water Storage Pond is double lined with high density polyethylene liners, with a leak detection system between the two liners. This system is monitored regularly for leaks.


28 monitoring bores are installed around the TSF to detect possible seepage, including several which are downgradient of both the TSF and Process Water Storage Pond.

Four monitoring bores have been installed round the Mill (up and down gradient) to identify any seepage from cyanide bearing tanks and facilities (e.g. Process Water Storage Pond) within the Mill.

The operation does not use mill tailings as underground backfill.

As there is no beneficial use of groundwater beneath or immediately downgradient of the operation and the DEC have not stipulated a numerical standard/limit, this question and the entire Standard of Practice is not applicable to the operation.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.7

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 4.7 requiring that the operation Provide spill prevention or containment measures for process tanks and pipelines.

Spill prevention or containment measures are provided for all cyanide unloading, storage, mixing and process solution tanks. All except thirteen Leach and CIP tanks have concrete containment. With regards to the other thirteen tanks, the operation identified that they had been installed so that 0.5 to 1.0 m of side wall are below the ground surface. These underground sections of the tanks are not separated from the geological environment by concrete or other impermeable material. Therefore, Granny Smith has implemented a RBI programme and external groundwater monitoring system to prevent and detect external contamination.

Secondary containment for cyanide unloading, storage, mixing and process tanks are sized to hold a volume greater than that of the largest tank within the containment and any piping draining back to the tank, and with additional capacity for the design storm event.

Procedures are in place and being implemented to prevent discharge to the environment of any cyanide solution or cyanide-contaminated water that is collected in the secondary containment area. These procedures state that cyanide spills must be returned to either the TSF or the process circuit and describe the locations of pumps and the receiver areas pumped material.

Granny Smith has developed a procedure to respond to cyanide spills within containment and outside of containment. These procedures are located within Section 5 (Post Incident Neutralisation and Decontamination) and Section 6 (Sampling Methodologies) of the Cyanide Emergency Response Plan.

Spill prevention or containment measures are provided for all cyanide process solution pipelines to collect leaks and prevent releases to the environment. This consists of concrete containment and pipe racking within the process facility and differential flow measurement and pressure monitoring of the tailings lines.


All surface water is a sufficient distance from cyanide pipelines to not warrant special protection needs.

The materials of construction used at Granny Smith to contain the process streams containing cyanide at high pH conditions are:

- Stainless steel for reagent cyanide
- Mild steel for process tanks, some lined with a proprietary product called Polyeuro 1050H
- Rubber-lined mild steel and high density polyethylene (HDPE) for slurry systems
- Stainless steel for the elution area

Appropriately qualified professionals have deemed these materials suitable for handling cyanide and high pH conditions.

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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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.8

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 4.8 requiring that operations implement Quality control and quality assurance (QA/QC) procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

Comprehensive evidence is not available for quality control and quality assurance (QA/QC) programmes implemented in the construction of cyanide unloading, storage, processing facilities and tailings facilities completed at Granny Smith. As such, appropriately qualified persons were engaged to inspect the TSF and processing plant. The TSF inspection report concluded that the:

- "...continued operation of the facilities within established parameters will protect against cyanide exposure and releases"
- and
- "[b]ased on a recent inspection of the facilities (August 2010) they appear well managed".

The structural inspection of the processing plant focussed on areas of the facility containing cyanide solutions with a concentration of 0.5 mg/l WAD cyanide or greater. The inspection report noted that, following the completion of identified remedial activities, the existing procedures, maintenance programme, containment and monitoring would result in the plant being operated safely and protect against cyanide release to the environment. The auditor can confirm that the remedial activities have been undertaken.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 4.9

not in compliance with


Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 4.9 requiring that operations implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and groundwater quality.

The operation has written standard procedures for monitoring activities for wildlife, surface and groundwater quality which were prepared by appropriately qualified persons. The procedures contain information on how and where samples should be taken, sample preservation techniques, chain of custody procedures, shipping instructions, and cyanide species to be analysed.

Space is provided on the field datasheets for wildlife monitoring and surface and groundwater monitoring to record sampling conditions (e.g. weather, livestock/wildlife activity, anthropogenic influences, etc).

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The Granny Smith does not have a direct discharge to surface water. The operation monitors for potential indirect discharges of cyanide to Windich Pit from TSF seepage through quarterly pit water sampling. In addition, groundwater is monitored for cyanide via 28 monitoring bores located around the site. Several of these are down gradient of the operation.

The operation inspects for and records wildlife mortalities related to contact with and ingestion of cyanide on a daily basis, as required in the Standard Operating Procedure TSF Wildlife Monitoring. A review of the Wildlife Observation Data Sheets revealed that the stipulate monitoring was being undertaken.

Monitoring is conducted at frequencies adequate to characterise the medium being monitored and to identify changes in a timely manner.

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PRINCIPLE 5 – DECOMMISSIONING

Manage Cyanide Process Solutions and Waste Streams to Protect Human Health and the Environment

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

in substantial compliance with

Standard of Practice 5.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 5.1 requiring that operations plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

The operation has developed a Decontamination and Decommissioning Plan (DDP) detailing Granny Smith’s decommissioning procedures.

The plan includes an implementation schedule divided into monthly units and the planned tasks are scheduled up to 24 months prior to closure and continue for up to 24 months after closure.

The operation has established a system to review its decommissioning procedures for cyanide facilities during the life of the operation and revise them as needed.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 5.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:


Granny Smith is in FULL COMPLIANCE with Standard of Practice 5.2 requiring that the operation establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

The closure cost for the Granny Smith operation has been calculated by Barrick’s Regional Reclamation and Closure Manager. The cost estimate is sufficient to cover the items detailed within the DDP and third party equipment and labour rates were used.

The Department of Mines and Petroleum (DMP) has established bond system under Section 84 of the Mining Act. This bond can be used by the Minister to cover the cost of decommissioning should the operation fail to do so itself.

The bond documented on the Granny Smith mining lease, which contains all cyanide facilities, is greater than the operation’s estimate for cyanide-related decommissioning activities.

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PRINCIPLE 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 and control them.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 6.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 6.1 requiring an operation to identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.

The operation has a series of plans, procedures, forms and sampling documents for both the processing and for maintenance tasks in the Mill Area relating to cyanide tasks.

All employees and contractors working on the site are required to undertake a Job Safety Analysis (JSA) or a Field Level Risk Assessment (FLRA) prior to undertaking any task, the assessment completed will depend on the size of the task.

The Visitors, Short Term and Employee Inductions detail the site requirements, including PPE requirements for the site.

A site specific Mill induction is provided for access to the Mill and includes a discussion on specific PPE required on site. Part of the Mill induction is the requirement to complete the Cyanide Awareness Presentation This presentation includes details on PPE for cyanide specific tasks. Process Operators were observed to be wearing the appropriate PPE for the relevant tasks.


The operation has procedures to review proposed process and operational changes and modifications for their potential impacts on worker health and safety, and incorporate the necessary worker protection measures. The Process Training Advisor stated that during the last training session on the revised procedures, several maintenance staff provided feedback on the SOP content and he then made changes in the documentation to reflect this.

The operation does solicit and actively consider worker input in developing and evaluating health and safety procedures through several means:

- Pre Shift Information (PSI)
- Health and Safety Meetings
- Review Process integrated into SOPs

Additionally through the SOP review process involves the employees reviewing the procedure, complete the sign off section and forward it to their immediate supervisor. This signoff also include a section to comment on changes to the task including hazards, permits and environment.

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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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 6.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 6.2 requiring Granny Smith to operate and monitor cyanide facilities to protect worker health and safety and periodically evaluates the effectiveness of health and safety measures.

The operation has established pH for the operation of the plant and has communicated this to Mill Operators who manually test and adjust the process input to maintain the pH at 10.0.

The Process Operators are required to complete twice daily HCN monitoring to monitor the levels of HCN around the Mill Area. The monitoring procedure directs the operator to take actions at 4.7 ppm and 10.0 ppm. The site does not use solid cyanide. Therefore, they do not monitor for dust.

The Working in Cyanide Areas SOP identifies areas and activities where workers may be exposed to cyanide between 4.7 and 10 ppm and in excess of 10 ppm both on an instantaneous basis and continuously. This SOP includes the PPE requirements for each level. However for the cyanide storage and mixing areas the PPE requirements change and recruitments are listed for between 0–10ppm and greater than 10 ppm.

The requirement for calibration/monitoring is tracked by the Mill Maintenance Clerk. Calibration is completed six monthly as required by the manufacturer.

Warning signs have been placed at specific areas around the Mill advising workers that cyanide is present, and those smoking, open flames and eating and drinking are not allowed.

Signage is posted when cyanide deliveries are in progress to keep non-essential persons away.

Showers, low-pressure eyewash stations and dry powder or non-acidic sodium bicarbonate fire extinguishers located at strategic locations throughout the operation and are maintained, inspected and tested on a regular basis.

The operation conducts regular inspections through the Planned General Inspection (PGI) process. The operation is split up into 18 areas and inspections are to be completed monthly for each area. These inspections cover all safety equipment. Inspection records were provided for PGIs completed during June 2010. A review of these records showed that each inspection was undertaken as programmed.

Eyewash stations and emergency showers checked during the site tour were all in working order.


Fire extinguishers are also covered through six monthly checks by the supplier. All extinguishers are dry power and were inspected in March 2010. A site tour confirmed this.

The Working in Cyanide Areas SOP directs workers to check safety showers and emergency buttons before working in cyanide areas. This was observed as occurring during a cyanide delivery.

The unloading, storage, mixing and process tanks are identified at Granny Smith with appropriate signage. In addition, the direction of cyanide flow in pipes is identified via labels with arrows indicating the flow direction.

MSDS' and first aid instructions were posted at the cyanide unloading area and in the CIP Control Hut. Workers also have access to MSDS and first aid instructions in the Mill Crib Room through computer access

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to the intranet. MSDS' are also available in the Health and Hygiene Centre, the Emergency Response area and the storage warehouse.

There is a system used for reporting and investigating incidents and an Incident Investigation Procedure. Once an incident has been observed, the incident report form is completed by the individual and their supervisor. This is then sent to the Occupational Health and Safety Department for review. There was no evidence that the producers are evaluated after an incident.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 6.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 6.3 requiring an operation develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

All mill operators carry a two way radio. There is a public announcement (PA) system covering the Mill Area and surrounding buildings allowing personnel to sound the alarm and communicate back to the control room in the event of an emergency. If the Mill operators cannot get to a PA phone, there are emergency buttons located at emergency eye wash stations.

There is an adequate water supply, if required, for cyanide decontamination (showers and eyewash stations).

There is an adequate supply of oxygen (Oxy Soks), located in the Mill Control Room, Mill Office and ERT Health and Hygiene Centre, with extra oxygen also kept at the Health and Hygiene centre.

The ERT Health and Hygiene Centre is staffed at all times by an OH & S Advisor who is a trained paramedic. The OH & S Advisor conduct weekly inspections of ERT and Centre equipment. The Master Weekly Checklist ensures all the individual checks are completed (i.e. Antidote, ECG, Oxy-sok, Defib). This checklist and some of the individual sheets were observed for June 2010. The past three weeks were completed appropriately.

The Cyanokit was inspected and was in date and was kept in a cold fridge with a temperature gauge.


The site has a three tiered emergency documentation system. The three documents include the Barrick Regional Crisis Management Plan (CMP), Barrick Granny Smith Emergency Response Plan (ERP) and the Cyanide Emergency Response Plan (CERP).

The CERP contains six Pre-Incident Plans (PIP's). The PIP's cover the range of potential cyanide incidents that could occur at Granny Smith.

The Medical Facility has two Paramedics (back to back) on-site or on call 24 hours per day. They are trained to administer amyl nitrite in the event of cyanide exposure. The sodium thiosulphate (25%) and hydroxocobalamin is administered under the direction of a doctor. The site has a signed protocol to address this with Doctor John Low.

The CERP contains a Pre-Incident Plan (PIP) for a cyanide injury (PIP-1 Cyanide Related Injury). This PIP instructs the ERT to arrange urgent transfer to the nearest hospital or if time critical, request RFDS (Royal

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Flying Doctor Service) pickup. The site maintains two ambulances which are available for transporting patients where required.

The CERP details that Laverton Hospital is the closest hospital for medical support for cyanide related injuries as well as telephone medical support. This is then followed by Kalgoorlie Hospital and Royal Perth Hospital. The RFDS will be utilised to supply medical Doctor to site for cyanide related injuries as well as telephone and radio medical support. There are signed formalised agreements with these facilities agreeing to the CERP and providing medical assistance, except for the Royal Perth Hospital.

Various cyanide training has been completed for the ERT, mill and maintenance and management staff throughout December 2009 and April, May and June 2010. There were actions that came as result from the Emergency Response Exercise and Emergency Evacuation of the Mill however none were related to the CERP. The OH & S Advisor and the Process Training Advisor advised that any key actions are placed into RIMS. At the time of audit, seven of the eight actions had been closed out.

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PRINCIPLE 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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 7.1 requiring an operation prepare detailed emergency response plans for potential cyanide releases

The site has a three tiered emergency documentation system. The three documents include the Barrick Regional Crisis Management Plan (CMP), Barrick Granny Smith Emergency Response Plan (ERP) and the Cyanide Emergency Response Plan (CERP). The CERP details the site cyanide hazards, required response equipment, responsibilities, training and procedures for foreseeable cyanide emergencies at Granny Smith.

The CERP details that the areas of concern at Granny Smith that present the highest risk of spill or contamination. These then form six Pre-Incident Plans (PIPs) which cover the potential cyanide failure scenarios and are related to actual activities that are conducted at the site.

Planning for the response to transport related emergencies has been limited to on-site emergencies and transport incidents in close proximity to the mine site. PIP 3 covers transport truck accident anywhere on site and transport truck accident off site, but in close proximity to Granny Smith.

The PIPs, dependant on the scenario, require the evacuation of Mill Personnel to muster points and the establishment of exclusions zones. Appendix 7 of the CERP detail the process by which site personnel are evacuated to appropriate site Muster Points at Granny Smith.

Section 4.0 of the CERP details First Aid and use of antidotes. Information relating to first aid is also included in Appendix 10 Advice to Medical Professional for Cyanide Antidote Kit.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.2


not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 7.2, requiring an operation involve site personnel and stakeholders in the planning process.

The most recent version of the CERP has been authored by the OH & S Advisor. Section 7.4 of the CERP states that this plan was developed through evidence and collaboration from its workforce and stakeholders. The document states that the authors included input from employees and Joint Health and Safety Committee

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Meeting representatives mainly through the review process. Stakeholders were involved through letters and community meetings.

The OH & S Advisor presented an information session on Cyanide and the CERP to the Laverton Shire and the LEMC. This included describing cyanide in general and a specific section on “What does this mean to the Laverton Community?” This section included the community’s response in an emergency and how they would be contacted. Other identified stakeholders were sent a Memorandum of Understanding (MOU) and a controlled copy of the latest CERP by registered mail.

The Operation completed a Cyanide Emergency Response Exercise over 13–14 May 2010. The purpose of the training was to exercise the site based ERT members and the site resources to handle a major cyanide spill. Various stakeholders were involved in the drill. They were included in the planning process and appropriate emergency response as per their roles.

The operation has engaged in consultation or communication with stakeholders to keep the Emergency Response Plan current. The workforce is provided an opportunity to comment through the Joint Health and Safety Committee Meeting which is held monthly and consists of representative from for various departments. Other stakeholders are engaged through the document control and review process. When a change to the CERP is made copies of the document or relevant pages are sent to the stakeholders and they are required to acknowledge receipt by sending the old copy back.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.3

not in compliance with


Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 7.3 requiring an operation designate appropriate personnel and commit necessary equipment and resources for emergency response.

Elements of the CERP and procedures:

- a) Designate primary and alternate emergency response coordinators whom have explicit authority to commit the resources necessary to implement the Plan. The CERP is defines responsibilities in the event of an emergency and lists key managers and superintendents who have the authority to commit resources when on-site. If the General Manager is not available to fulfil his/her role, then the superintendents are to take alternate turns as the Acting General Manager.
- b) Identify ERT members. The CERP lists the names and contact numbers of ERT members and an email is sent site wide each week listing those ERT members that are currently on-site and what shift they are on.
- c) Require appropriate training for emergency responders. The required qualifications for the key site personnel that would be included in responding to an emergency are detailed in a training matrix within the CERP.
- d) Include call-out procedures for working hours and after hours and 24-hour contact information for the coordinators and response team members.
- e) Specify the duties and responsibilities of the coordinators (such as department managers and superintendents) and ERT members (including ERT Coordinator, Captain and Vice Captain).

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- f) List emergency response equipment, such as first response equipment, emergency tender, hazmat/forward control point unit, ambulance and decontamination equipment.
- g) Include procedures to inspect emergency response equipment on a weekly basis to ensure its availability.
- h) Describe the role of outside responders, medical facilities, communities and neighbouring businesses in the emergency response procedures.

The operation has made outside entities included in the emergency response plan aware of their involvement and has included them as necessary in mock drills or implementation exercises. Section 7.7 of the CERP details the Cyanide Emergency Response Plan Exercise. This section states that the Laverton Hospital, RFDS and or other receiving medical facilities will be included in mock drills. A Cyanide Emergency Response Exercise was conducted in May 2010 and included a number of stakeholders. Stakeholders that can provide a level of Mutual Aid were also invited to attend. Most did not attend however; they provided information on what resources they had on the day in the event of a real emergency. Additionally, identified stakeholders have been sent a controlled copy of the latest CERP which included a MOU which they were to sign stating they have reviewed and accept the CERP.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.4

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 7.4 requiring the development of procedures for internal and external emergency notification and reporting.

Appendices 2 to 6 of the CERP include the procedures and contact information for notifying management, regulatory agencies, outside response providers and medical facilities of the cyanide emergency.

Additionally there is contact information included in the Role Folders in the Incident Response Cupboard.

The CERP details that the only scenario which could involve the community is PIP 3 – Transportation Accident. This procedure states that “LEMC may also be notified if the cyanide incident is in close proximity to Laverton. LEMC will then follow their procedure for community awareness.”

The CERP does include procedures for communication with the media.

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

in full compliance with


The operation is

in substantial compliance with

Standard of Practice 7.5

not in compliance with

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Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 7.5, requiring an operation develop procedures for internal and external emergency notification and reporting.

The CERP and associated procedures describe specific remediation measures as appropriate for the likely cyanide release scenarios, such as:

- Recovery or neutralisation of solutions or solids: Section 5 of the CERP addresses post incident neutralisation and decontamination.
- Decontamination of soils or other contaminated media: Section 5.2 of the CERP describes the neutralisation of soils procedure. Decontamination of equipment is covered in Section 5.3.
- Management and/or disposal of spill clean-up debris: The CERP notes that all contaminated material is to be neutralised and disposed of in the tailings storage facility.
- Provision of an alternate drinking water supply: Section 7.6.3 of the CERP notes that the water source at Granny Smith is supplied from a borefield approximately 10 km away. As such, there is minimal risk of cyanide contamination to drinking water. If required, Granny Smith advised an alternative drinking water could be sourced via water cart road delivery from Laverton.

Section 5.3.4 of the CERP prohibits the use of chemicals, such as sodium hypochlorite, ferrous sulphate and hydrogen peroxide to treat cyanide that has been released into surface water.

Section 6.0 of the CERP address the potential need for environmental monitoring to identify the extent and effects of a cyanide release, and include sampling methods, parameters and, where practical, possible sampling locations and states that the monitoring is to be undertaken in conjunction with the site Environmental Department.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 7.6

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:


Granny Smith is in FULL COMPLIANCE with Standard of Practice 7.6 requiring an operation periodically evaluate response procedures and capabilities and revise them as needed.

The front page and Section 7.8 of the CERP provides that the plan is to be reviewed and revised following all cyanide related emergencies and drills (in the absence of incidents, review and revision should occur immediately after the mock cyanide drill) and revision information kept on file.

The OH & S Advisor stated that the document was reviewed on 14 May after a cyanide exercise however no changes were required and changes made on 01 June 10 were to address other minor issues identified.

Mock cyanide emergency drills are conducted periodically as part of the emergency response plan evaluation process. Section 7.7 of the current CERP details the frequency at which drills must be undertaken. Evidence has been provided to show that a cyanide emergency involving ERT response, evacuation of the process area and a crisis teams has been conducted as per the stipulated exercise frequencies.

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PRINCIPLE 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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 8.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 8.1 requiring an operation train workers to understand the hazards associated with cyanide use.

The operation does have training programs in cyanide hazard recognition for all personnel who may encounter cyanide. All personnel have conducted the training and almost all have completed the two yearly refresher training.

Competency training including tasks involving cyanide is also carried out.

The operation utilises the training database InTuition to record training requirements and training records.

Hardcopies of SOP assessment (understanding and competence) and other training are also kept on an employee's personal training file in the Process Training Advisor Office in a locked filing cabinet.

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.

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 8.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:


Granny Smith is in FULL COMPLIANCE with Standard of Practice 8.2 requiring that an operation trains appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

The training received by new starters covers site inductions, cyanide awareness, operational training manuals and task specific SOPs. The operational training manuals and SOPs cover training related to normal production tasks.

A Training Matrix specific for Processing and Maintenance has been completed by the Process Training Advisor, who ensures appropriate cyanide training is completed for the whole site. The matrix identifies the cyanide related roles and responsibilities and related these each to cyanide awareness, training manual or a SOP.

The manuals and SOPs identify specific areas where cyanide specific training is required.

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The training and assessment system is mentoring based whereby a senior operator demonstrates and trains personnel in all relevant tasks. This is followed by a competency based practical assessment process which is completed by the Process Training Advisor (for cyanide areas).

The Process Training Advisor has 17 years mineral processing experience, 14 years at Granny Smith, 10 as an operator and 4 years as a trainer. Senior staff complete the mentoring by 100% shadowing and then supervision. All senior staff are sufficiently experienced and have completed all the required training for their role.

The Cyanide Awareness course provides detailed knowledge for all personnel who will work in cyanide areas or on cyanide related tasks. This must be completed before gaining access unsupervised to areas where there are cyanide risks. A compliance report for Cyanide Hazard Awareness was viewed from InTuition and the only three staff out of 55 had expired in the past six months, the Process Training Advisor noted that they had missed the refresher training and he was organising them to complete it shortly.

Granny Smith records completion of employee training in their training database InTuition. Additionally paper copies of training assessment sheets are kept in each employee's personal file in the Process Training Advisors Office.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 8.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 8.3 requiring an operation train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

The required response for a cyanide release, decontamination and first aid procedures are detailed in the Cyanide Hazard Awareness training which is required to be completed every two years.


Additionally Appendix 7 of the CERP and the Emergency Evacuation Plan – Mill/Admin both detail the evacuation process in case of an emergency. Interviews with operators confirmed they knew what to do in the event of a cyanide release

Section 3.1.6 of the CERP detailed required ERT qualifications. A matrix is provided detailing training requirements for each of the key roles in emergency response. The OH & S Superintendent detailed that there is an overall training schedule and a monthly training schedule prepared for the ERT members. The monthly training schedule covers training and refresher training on various topics, where one topic is normally covered for approximately a month, December 2009 covered cyanide.

Various cyanide training has been completed for the ERT, mill and maintenance and management staff throughout December 2009 and April, May and June 2010. There were actions that came as result from the Emergency Response Exercise and Emergency Evacuation of the Mill however none were related to the CERP. The OH & S Advisor and the Process Training Advisor advised that any key actions are placed into RIMS. The Emergency Response Exercise Report detailed that seven out of eight of the actions have been closed out.

There is an electronic database, InTuition, containing the records of completed training for each employee.

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Hard copies of ERT training records and assessment sheets are also kept in each employees file in the ERT Health and Hygiene Centre and hard copies of site cyanide training is kept on each employees file in the Process Training Advisors office.

The operation has made off-site Emergency Responders, such as community members, local responders and medical providers, familiar with those elements of the Emergency Response Plan related to cyanide.

Identified stakeholders were sent a MOU and a controlled copy of the latest CERP by registered mail. The MOU, when signed by the stakeholders acknowledge receipt and agreement to their defined role and responsibilities in CERP.

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PRINCIPLE 9 – DIALOGUE

Engage in Public Consultation and Disclosure

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 9.1

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 9.1 requiring an operation provide stakeholders the opportunity to communicate issues of concern.

At a corporate level, Barrick has established a public affairs email address on their website, which stakeholders can use to enquire about cyanide management and use at various Barrick sites.

At an operational level, Granny Smith representatives attend the local shire, Leonora Laverton Cultural Awareness Group and Local Emergency Management Committee meetings, where cyanide management at Granny Smith has been discussed.

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 9.2

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:


Granny Smith is in FULL COMPLIANCE with Standard of Practice 9.2 requiring an operation initiate dialogue describing cyanide management procedures and responsively address identified concerns.

At an operational level, Granny Smith utilises site inductions and cyanide awareness training to create opportunities for the operation to communicate with the workforce and provide them with information regarding cyanide management practices and procedures.

With respect to the local community, Granny Smith representatives attend the local shire, Leonora Laverton Cultural Awareness Group and Local Emergency Management Committee meetings, where cyanide management at Granny Smith has been discussed.

Barrick's website outlines cyanide use at Granny Smith and also has a public affairs email for queries on cyanide use at their sites, such as Granny Smith.

Granny Smith Gold Mine
Name of Facility


Signature of Lead Auditor

22 March 2011
Date



GRANNY SMITH GOLD MINE - ICMC CERTIFICATION AUDIT SUMMARY AUDIT REPORT

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

in full compliance with

The operation is

in substantial compliance with

Standard of Practice 9.3

not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Granny Smith is in FULL COMPLIANCE with Standard of Practice 9.3 requiring an operation make appropriate operational and environmental information regarding cyanide available to stakeholders.

Barrick has written descriptions of how their activities are conducted and how cyanide is managed at a corporate and operational level. These are available on the Barrick website.

The illiterate proportion of the local population does not constitute a significant percentage and consequently, verbal dissemination of material is not considered warranted.

The operation has some mechanisms to make information publicly available on the cyanide release or exposure incidents, where applicable.

Granny Smith is required to submit an annual environmental report (AER) to the Department of Environment and Conservation (DEC) and DMP on an annual basis. The AER details all environmental incidents that occurred on-site during the reporting period. Cyanide releases, including tailings spills are reported in the AER and this was confirmed in a review of the document. Permission from Granny Smith was not required to access the AER. The public can access the AER through the Freedom of Information Act.


Cyanide exposures and health and safety incidents are not readily available to the public. Whilst the Department of Minerals and Petroleum requires miners to report serious occurrences and mining injuries (including cyanide exposures) and this information is collated on the Resources Safety Incident Database the information contained was in a form such that the operation and or company could not be identified. However, such information can be obtained by the public through the Freedom of Information Act via the *FOI Application for access to documents DMP Resources Safety* form.

The CERP details the site cyanide hazards, required response, equipment, responsibilities, training and procedures for cyanide emergencies. The emergencies identified within the CERP, cover the scenarios identified in questions a) to d). The response procedures require appointed media liaison personnel to keep the media apprised of the incident in accordance with the procedure.

The content and frequency of information flow is dependent on the type and severity of the incident and the risk to surrounding communities. In many cases the specific information about the type and cause of the incident is controlled until a full investigation had been completed by the responsible authorities such as a coroner, DEC or DMP.

The dissemination of information to the media will take the form of media conferences, statements and releases as appropriate.

Granny Smith Gold Mine
Name of Facility


Signature of Lead Auditor

22 March 2011
Date



Report Signature Page

GOLDER ASSOCIATES PTY LTD

A handwritten signature in black ink, appearing to read 'Ed Clerk'.

Ed Clerk
ICMI Lead Auditor/Technical Specialist

RJB/EWC/arp

A.B.N. 64 006 107 857

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APPENDIX A

Limitations



LIMITATIONS

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