February 2010

INTERNATIONAL CYANIDE MANAGEMENT CODE GOLD MINING RECERTIFICATION AUDIT

Barrick Gold of Australia Limited Cowal Gold Mine Recertification Audit Summary Audit Report

Submitted to:

International Cyanide Management Institute (ICMI)
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UNITED STATES OF AMERICA

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REPORT

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Barrick Gold of Australia Limited	Matt Hochen	097641260 002 R Rev0	5 November 2009	Electronic and Hard Copies

SUMMARY AUDIT REPORT FOR OPERATIONAL GOLD MINES

Name of Mine:	Cowal Gold Mine
Name of Mine Owner:	Barrick Gold Australia Limited
Name of Mine Operator:	Barrick Gold Australia Limited
Name of Responsible Manager:	Matt Hochen, Project Manager ICMC Compliance
Address:	Barrick Gold Australia Limited Level 10, 2 Mill Street Locked Bag 12, Cloisters Square Perth, 6850
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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 nine operating mines: the Kalgoorlie, Kanowna, Granny Smith, Plutonic, Darlot and Lawlers gold mines in Western Australia; the Cowal gold mine in New South Wales; the Osborne copper-gold mine in Queensland; and the Porgera gold mine in Papua New Guinea.

The Barrick Cowal Gold Mine (CGM) is located on the western shore of Lake Cowal, approximately 38 km northeast of West Wyalong in mid-western New South Wales. The mine commenced operations in 2005 and, under current plans, is expected to continue until 2015.

The main components of the Cowal Gold Mine are:

- an open pit which, on completion of mining, would measure approximately 1 000 m by 850 m and 325 m deep;
- a processing plant to extract the gold from the mined ore;
- waste rock emplacements which would contain mined rock that has no commercial quantities of gold;
- two tailings storages which would contain the slurry residue from the processing plant;
- a lake isolation system to separate the Project from Lake Cowal over the long term;
- a 132 kV electricity transmission line from Temora to the Project (some 90 km in length); and
- an access road (approximately 16 km) to the Project.

The Cowal process plant treats sulphide ore and consists of primary crushing, crushed ore stockpiling, grinding, pebble recycle crushing, gravity concentration, intensive cyanide leaching (batch process), flotation, ultra fine grinding and leaching, elution, electrowinning and smelting. The leach tailings are treated with Caro's Acid to destroy the cyanide to prescribed limits and then pumped to one of two tailings storage cells.

The processing plant was designed to ensure Weak Acid Dissociable (WAD) Cyanide levels in the TSF would be below 30 mg/L for 100% of the time and below 20 mg/L for 90% of the time.

Cyanide is delivered to site dry in 22 tonne ISO-tainers of dry sodium cyanide pellets. The cyanide is transferred into the plant by sparging the tankers into the process plant holding tanks.

SUMMARY AUDIT REPORT
AUDITORS FINDINGS

The Cowal 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:	Edward Clerk, CEnvP (112), RABQSA (020778)
Email:	eclerk@golder.com.au

Name and Signatures of Other Auditors:

Name	Position	Signature	Date
Edward Clerk	Lead Auditor and Technical Specialist		5 November 2009
Mark Latham	Auditor		5 November 2009
Jaclyn Goad	Auditing Support		5 November 2009

Dates of Audit:

The Certification Audit was undertaken over three days (9 man-days) between 7 and 9 September 2009.

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.

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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.**

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 1.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The Cowal Gold Mine is in FULL COMPLIANCE with Standard of Practice 1.1, requiring the operation 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.

The operation purchases its sodium cyanide from Orica Australia Limited (Orica) under a Supply Agreement for the Supply of Sodium Cyanide dated 16 December 2004 amended in March 2007 and again in March 2009, which requires that supplied cyanide be manufactured at a facility certified under the Code.

Orica, the supplier of cyanide to the operation, sources cyanide from its Yarwun facility, which was fully certified under the Code on 7 June 2007.

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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:

The Cowal Gold Mine 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.

The operation purchases its sodium cyanide from Orica under a written Supply Agreement that designates responsibility for the aspects of cyanide transportation required by the Code. The Supply Agreement establishes clear lines of responsibility for safety, security, release prevention, training and emergency response through reference to the Code and to the ICMI Cyanide Transportation Audit Protocol.

The Supply Agreement extends to any transportation subcontractors used by Orica, the cyanide transporter, by requiring the transporter and all subcontractors to have passed third-party independent Code certification audits or equivalent.

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:

The Cowal Gold Mine 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.

The operations sources all its sodium cyanide requirements from Orica. The Supply Agreement requires Orica, as a transporter, to provide Cowal Gold Mine with copies of third party audit reports, in accordance with Code requirements, demonstrating responsible cyanide management for the transport activities along the entire supply chain. Furthermore, the Supply Agreement states that no amendment to the supply chain is to be made without prior notification to the Principal (Cowal Gold Mine) and revised documentation being provided.

Orica has conducted independent code equivalent, non-certification audits of its transportation activities between Yarwun (Queensland) and the Cowal Gold Mine (New South Wales). The transport of cyanide from

Orica's Yarwun production facility to the Cowal Gold Mine is coordinated from the Yarwun production facility and uses a combination of road and rail:

- Road:
  - Toll Resources (Queensland).
  - Patrick Logistics (New South Wales).
- Rail:
  - QR National (Queensland).
  - Pacific National (New South Wales)
  - Patrick Logistics (New South Wales)

Product for Cowal Gold Mine in New South Wales is loaded at Yarwun and transported by road, 2 km to the Mt Miller Rail Yard by Toll Resources (Gladstone). From Mt Miller, QR National transports the product by rail over one day to the Acacia Ridge Rail Yard where it is transferred to Pacific National. From Acacia Ridge, Pacific National transports the product 930 km south over one day, to Pacific National's Chullora Rail Yard. From Chullora, Patrick Logistics transports the product by road, 15 km north-west to the Patrick Logistics' Camellia rail yard over one day. Patrick Logistics then rails the product from Camellia to Dubbo. At Dubbo the product is delivered by road over one day to the Cowal Gold Mine by Patrick Logistics.

The independent code equivalent, non-certification audits covered all transportation activities from Orica's Yarwun production facility to the Cowal Gold Mine. Orica's due diligence investigations of rail transporters and rail yards were reviewed by the transport auditor during the audit process to determine if it had reasonably evaluated these facilities and implemented, as practical, any necessary management measures.

The audit reports conclude Orica's cyanide transportation activities between Yarwun and the Cowal Gold Mine demonstrate the implementation of programs, practices and procedures consistent with ICMI's Cyanide Transportation Audit Protocol and were in Full Compliance with the Code.

The operation provided chain of custody records identifying all elements of the supply chain (producer, transporters and interim storage facilities that handle the cyanide brought to its site. Barrick also provided documentation demonstrating that cyanide consignments were transported in accordance with the supply chain parties identified in the relevant audit reports.

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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:

Cowal 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.

The cyanide handling and storage facilities have been built to the standards of the mine's cyanide manufacturer and supplier, Orica and to meet the requirements of the state government. The nearest surface water body is Lake Cowal 1 km to the south-east; separation is achieved by a specially-constructed bund wall. The nearest habitation to the mine is pastoral station 2.5 km to the north. Reagent cyanide is unloaded using Orica's "sparge" system, carried out on a competent concrete surface. Any spills would drain to the reagent bund from where they can be recovered for use in the leach circuit.

A system of level instruments, controls, alarms and trips is in place to manage the risk of tank overfilling. The cyanide mixing and day tanks are installed on footings that been built of concrete and bitumen to prevent seepage to the subsurface and the footing design incorporates a tell-tale system to accelerate the identification of leaks from the tank bottoms. The tanks and their associated pumps are installed in a secondary containment system built of concrete floors and walls that provide effective containment.

The cyanide tanks effectively isolate the stored reagent from the elements and are effectively vented so that breathing emissions should not lead to hazardous concentrations of HCN where workers are present. The unloading and storage areas are in a secure location and have facilities to enable additional security to be invoked if considered necessary. The nearest incompatible material is hydrochloric acid which is hydraulically isolated from the cyanide area approximately 50 m away.

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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:

Cowal 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.

The bulk solids containers used to deliver cyanide using Orica's "sparge" system remain under Orica's control at all times, including delivery to site and its immediate return for re-use after unloading. Because containers remain truck-mounted and are returned immediately, there is no opportunity to stack the containers at site. Driver safety is the main measure required to prevent rupturing or puncturing of the containers. The unloading procedure incorporates features required by the Code including:

- Requirements for the personal protective equipment to be used during unloading.
- Escorting of vehicles on site to ensure safe driving helps prevent rupturing or puncturing of containers.
- Observation of the unloading operation by a combination of local observer during high risk steps and the use of video at other times.
- An automated rinse cycle that is designed to practically minimise the residual cyanide present in the container on its return journey to Orica.
- Requirements to rinse the container externally and to fit wire seals to the outlet valves for the return journey.
- A note that containers are not to be stacked under any circumstances.
- A requirement for any spillage to be cleaned up immediately.

Standard operating procedures and operator training are effective in managing unloading practices. As noted in Standard of Practice 4.1, plant inspections and preventive maintenance routines are carried out to scopes and frequencies that appear are appropriate to the current condition of the facilities.

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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:

Cowal 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 written management plans and procedures that cover its cyanide facilities including unloading and storage, leaching, tailings management and cyanide destruction. As required by the New South Wales Government when the project was approved, the management plans document the control requirements for key parameters such as tailings storage facility freeboard and discharged cyanide concentrations. The management plans are supported by detailed procedures which cover the inspections required to deliver on the management plan requirements; responsibilities for these inspections are distributed amongst processing, maintenance and specialised engineers and scientists. The inspections address tanks, bunds, machines, instruments and the tailings storage facilities. The mine has progressively improved its system for managing change to ensure that cyanide risks remain under effective control as the operation evolves. The government approval for the project required the conduct of a comprehensive initial HAZOP study and the mine continues to apply the HAZOP discipline to the assessment and management of risk as improvements to mine operations are considered and adopted. The procedures include prepared responses to foreseeable contingencies such as leaks and spills of reagent, slurries and tailings, high levels in tailings storage and water ponds, and aberrations in processing conditions that may increase the risk of cyanide exposures. Many processing conditions are monitored continually from the process control room. Others are monitored by inspections that are scheduled on frequencies ranging from say twice per shift through daily, weekly, fortnightly, monthly and quarterly to annually. It appears that the frequency of inspections is managing the risk of cyanide releases and exposures effectively at present. The inspections cover lots of relevant detail with respect to integrity, corrosion, leaks and availability. Records are prepared as required by the Code and are being retained in both hard copy and electronic form (using the Oracle system). A strategic approach to the scope and frequency of inspections and preventive maintenance was clearly presented to the auditors. The operation has determined that electric power is not critical to the prevention of releases and exposures; however the site does have an uninterruptible power supply and emergency generator to limit the disruption and consequential risk associated with power failures.

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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:

Cowal Gold Mine 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.

Cowal Gold Mine conducts a programme to determine appropriate cyanide addition rates in the mill and evaluates and adjusts addition rates as necessary when ore types or processing practices change cyanide requirements.

Samples have been taken and independently revised, recommendations have been made and Cowal Gold Mine are reviewing the recommendations.

Cowal Gold Mine has evaluated a number of control strategies including automatic free cyanide analysers and manual sampling methods. A Cyantific Instrument Free Cyanide Analyser measures free cyanide levels in Tanks 2 and 9 every five to ten minutes. Manual titrate sampling is also conducted three hourly with a procedure to test more frequently if 10 ppm is recorded.

A daily releach test is also conducted to determine if increased cyanide addition rates would result in increased recovery. If no additional benefit is evident, it then allows for the cyanide addition rates to be lowered.

The dosage rate is reviewed by the site metallurgist in conjunction with testwork and may be altered to maintain a suitable level of free cyanide in the leach circuit. This control strategy has been loaded into the Distributed Control Systems (DCS) and automatically adjusts the cyanide addition flow rate, depending on mill throughout. Total cyanide reagent consumption is reviewed on a daily basis to ensure any deviations from normal operation can be identified and actioned.

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:

Cowal Gold Mine 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.

Cowal Gold Mine has developed and implemented comprehensive and probabilistic water balances for its cyanide operations. The water balance is appropriate for the facilities and environment. It has inputs, which allow the rate of deposition to be altered, different storm events to be selected, water runoff coefficients to be

changed, and includes an option for a 48 hour power outage. Since the site is in a negative water balance the model also allows for the input of values of bore water and purchased water.

Solution losses were not included as tailings storage facility (TSF) seepage is collected and pumped back into the TSF and D6 is lined.

Existing operating procedures incorporate inspection and monitoring activities to manage the risk of overtopping the TSFs and storage pond D6. Technical inspections are completed weekly of the whole TSF and lines and visual inspections of the TSF are completed three times a day.

Cowal Gold Mine has implemented a 500 mm freeboard for slurry and a 1000 mm freeboard for supernatant water, which exceeds the requirement of the 1/1000 yr event of 216 mm. The Dams Safety Committee of NSW along with URS conducts yearly inspections which includes a TSF Freeboard Requirements Assessment.

Technical inspections of the whole TSF and lines are completed weekly and visual inspections of the TSF are completed three times a day. The daily inspections require the inspector to notify their supervisor if decant pond is greater that 50% of the TSF, if the slurry freeboard is less than 0.5 m or if water freeboard less than 1 m. D6 is alarmed to notify the control room when freeboard level is 75% and have an audible alarm when freeboard is 100%.

Precipitation results gathered from the onsite weather station are compared with the Bureau of Meteorology results. Coffey completed a review to ensure the water balance reflects actual rainfall events. It was determined that no change to operating procedures were required as the actual records reflect the design.

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:

Cowal Gold Mine 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.

WAD cyanide results taken for the Southern TSF at the discharge point and the supernatant were viewed and all results meet the licence requirements. Only five results from the discharge point registered over 20 ppm and none at the supernatant. All D6 results were below 3.5 ppm WAD cyanide.

Sampling of D5 is completed opportunistically when water levels reach the sampling point, verbal discussions with the Senior Metallurgist indicated that the cyanide levels are less than D6 and only one result of cyanide has been recorded. It is estimated that WAD cyanide levels would below 1 ppm due to the dilution of raw water from external sources.

To restrict wild life access to the TSF and D6, Cowal Gold Mine has installed fencing. The fence is electric and constructed with 50 mm mesh 2 m high with a finer mesh covering the bottom metre. The fence has been dug in 0.5 m to restrict fauna digging under the fence. A standard 50 mm mesh fence has also been constructed around D6.

Maintaining a WAD cyanide concentration of 50 mg/L or less in open water has been shown to be effective in preventing significant wildlife mortality. Cowal Gold Mine has a wildlife-monitoring programme in the form

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of daily TSF inspections that includes inspection and recording of wildlife status and activity. A review of the wildlife monitoring records and incident summary indicated that nine fatalities have been recorded at the site of the TSF since operations commenced in 2007. A review of the autopsy reports for each fatality indicated that none were related to cyanide.

There are no heap leach facilities at Cowal Gold Mine.

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:

Cowal is in FULL COMPLIANCE with Standard of Practice 4.5, requiring the operation to 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. Any storm surface water flow is retained on-site.

The site does not have any indirect discharge to surface water. Groundwater modelling studies have been conducted and the TSF has been designed to minimise seepage as much as possible.

Underground trenches within the TSF collect seepage water, which is pumped back into the TSF. This is necessary as all water is needed on site due to the negative water balance. Any seepage not captured may reach the groundwater however studies have shown that the site is on a separate aquifer, hydrogeologically isolated from Lake Cowal. As such, any uncaptured seepage associated with the tailings storage facilities will not discharge into Lake Cowal.

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

☐ not subject to

Summarise the basis for this Finding/Deficiencies Identified:

Cowal 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

The groundwater beneath or immediately downgradient of the site does not have a beneficial use. The saline nature of the groundwater precludes its use for stock, domestic or irrigation purposes. Despite this, Cowal Gold Mine has implemented preventative management measures and monitoring measures to ensure the potential for cyanide contamination of the groundwater is minimised. Monitoring is completed

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downgradient, upgradient and beneath the TSF. Samples are collected from these monitoring bores on a quarterly basis and analysed by NATA accredited ALS Laboratory. As reported in the Annual Environmental Return and in monitoring information, cyanide concentrations have remained below laboratory detection limits indicating that groundwater quality is unchanged.

Monitoring has shown that cyanide concentrations remain below laboratory detection limits in groundwater across the site. However, if required, the Cyanide Management Plan has a number of contingency measures for reducing WAD cyanide levels at the discharge point to the tailings storage to minimise the risk of seepage into groundwater and in the instance of fauna deaths.

Mill tailings are not used as underground backfill. Backfill facilities are not part of either the oxide or primary ore treatment plants at Cowal Gold Mine.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.7**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Cowal is in FULL COMPLIANCE with Standard of Practice 4.7 requiring that the operation implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.

The cyanide unloading area incorporates spill containment facilities. A combination of spill prevention and containment is provided in association with cyanide mixing, storage and processing tanks. All such tanks are installed on impermeable footings within secondary containments with integrity management systems applied to both the tanks and the secondary containments. The secondary containments are all sized to meet the Code requirements. There is additional protection through the installation of a Process Stormwater Pond that will capture stormwater from areas not otherwise controlled by the tank bunds or the pit that collects runoff from the general processing areas. Water, slurry and other fluids collecting in the bunds is pumped into the process using fixed sump pumps in most cases. If material collects in either the general processing pit or the Process Stormwater Pond it can be pumped back into the processing operation by the temporary installation of mobile pumping equipment. All tanks handling cyanide solutions are backed up by secondary containment. All cyanide pipelines are inspected for integrity on a monthly basis whilst operational inspections are more frequent, especially the tailings lines which are inspected for leaks three times per day. A Lake Protection Wall has been built to ensure that Lake Cowal is protected from mine operations, including those involving cyanide. A risk assessment has been prepared to demonstrate that this is an effective measure. Process plant is generally fabricated from materials known to be compatible with cyanide and high pH conditions such as concrete, carbon steel, stainless steels and high density polythene. A polyurea coating has recently been introduced to line processing tanks, following checks made to verify the suitability of the proprietary product involved.

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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:

Cowal is in FULL COMPLIANCE with Standard of Practice 4.8 requiring that operations implement QA/QC procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

For the original Certification Audit a report was prepared based on a review of the original construction quality program and the then-current operations to provide assurance that operations could continue safely from a cyanide perspective. Since then, there have been a number of plant modifications and there has been evidence of wear and tear on processing equipment. Evidence was examined to verify that quality assurance and quality control programs are continuing to be applied to new construction and modification works, addressing the suitability of materials, their fabrication and installation. Examples examined during the audit covered a tailings storage expansion, the replacement of a pressure vessel in a higher grade of steel and the installation of corrosion-resistant linings in process tanks. From the documents kept, it was possible to verify that in each case the quality management work had been signed off by an appropriately qualified person, with different requirements applicable in each case. The operation had recently commissioned a new integrity review to confirm that appropriate steps were being taken to manage the integrity of the cyanide facilities. The audit found that appropriate action had been taken on the findings and recommendations of that review.

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:

Cowal 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 a written a number of management plans which refer to prescriptive sampling procedures that are accepted industry standards. These exact sampling procedures are detailed in written standard operational procedures (SOPs) that are used to monitor and evaluate the effects of cyanide on wildlife, surface and groundwater quality.

The sampling and analytical protocols were developed and will continue to be maintained and reviewed by appropriately qualified employees within the Barrick Cowal Environmental Department.

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The SOPs specify how and where each sample should be taken, sample preservation techniques, chain of custody procedures, shipping instructions, and cyanide species to be analysed. The Environment Department has a Monitoring QA Checklist, which ensures all the requirements listed in the related SOPs are completed correctly. The checklist is attached to the completed field sheets and . A selection of these were viewed and were filled in correctly.

The completed field sheets used for the groundwater sampling and the TSF monitoring had sections which recorded information on sampling conditions, related to climatic conditions, time, equipment used, other influence i.e. fauna).

The operation currently monitors WAD cyanide in groundwater downgradient and upgradient of the TSFs and from bores surrounding the TSF. Evidence of monitoring was sited in the monitoring field sheets and in the results provided in the Annual Environmental Return. The operation does not have any direct or indirect discharges to surface waters.

Cowal has a wildlife-monitoring programme in the form of twice daily TSF inspections that includes inspection and recording of wildlife status and activity. A review of the wildlife monitoring records indicated that inspections were occurring as per the procedure. A list of incidents relating to fauna fatalities from beginning of operation in 2007 until August 2009 was reviewed and, nine fatalities were recorded at the TSF site. Veterinary autopsies for each of the fatalities detailed the cause of death, none were related to cyanide.

Monitoring and reporting is undertaken in accordance with relevant management plans. The monitoring frequencies for surface water, groundwater and fauna are detailed in the plans. The adequacy of this monitoring is verified on an annual basis through preparation of the Annual Environmental Management Report which is reviewed by regulators and independent experts. To date there have been no concerns raised with regard to adequacy of the monitoring program. In addition, third party reviews are undertaken on an annual basis by qualified consultants to ensure collection and interpretation of groundwater monitoring data is adequate.

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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:

Cowal Gold Mine 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 area specific cyanide decontamination and decommissioning plans, removal of residual cyanide reagents and installation of measures for control or management of surface or groundwater such as pumping and treatment systems that would operate during the facilities closure period. The DDP also details health and safety considerations.

The DDP 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 closure and decommissioning procedures for cyanide facilities during the life of the operation and revise them annually. The DDP is included as an appendix to the CGM Mine Closure Plan. The Plan is updated on an annual basis and, as an appendix, the DDP is included in this review.

Reviewed versions were sited of the CGM Mine Closure Plan for April 2008, September 2008 and a draft version dated September 2009 which is processing through the formal review process.

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:

Cowal 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 costs for each Barrick operation within Australia is calculated annually by Barrick's Regional Reclamation and Closure Manager using the Barrick Reclamation Cost Estimator (BRCE) model. The closure estimates are reviewed annually representatives of Barrick (Cowal Gold Mine and national

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representative), Resource Strategies and SRK and the BRCE model is adjusted when necessary. The results are then summarised in the CGM Closure Plan and the "Closure Plan and ARO Closure Cost Estimate" report.

Barrick is required to lodge a security bond to the NSW Department of Primary Industries – Mineral Resources (DPI-MR Mineral Resources in 2003 as per condition 23 of Mining Lease No. 1535 for the Cowal operations. DPI-MR requires this bond is reviewed each time an amended Mining Operations Plan is submitted. DPI-MR has approved the use of the BRCE Model in determining the current bond amount. The current amount is greater that the estimated cyanide decommissioning cost.

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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:

The Cowal Gold Mine 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 Processing Plant Area relating to cyanide tasks.

The procedures detail personal protective equipment (PPE) requirements and address pre-work inspections. All employees and contractors working on the site are required to undertake a field level risk assessment (FLRA) prior to undertaking any task. Training on the FLRA process is provided during Induction training and all contractors and employees are issued with FLRA pocket book detailing the procedure, risk assessment matrix and record sheets.

The operation has a change management procedure to allow process and operational changes and modifications to be reviewed for their potential impacts on worker health and safety, and incorporate the necessary worker protection.

The operation does formally solicit and actively consider worker input in developing and evaluating health and safety procedures. When procedures are developed, a review date is selected based on the criticality of the procedure. The review includes consultation with the employees and checks by the supervisor and approval by the manager.

Reviews are also prompted through the FLRA process and Supervisor's Task Observation Programme process. Procedure development and review is also discussed at each Process Safety meeting.

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

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Summarise the basis for this Finding/Deficiencies Identified:

The Cowal Gold Mine is in FULL COMPLIANCE with Standard of Practice 6.2 requiring the operation operate and monitor cyanide facilities to protect worker health and safety and periodically evaluates the effectiveness of health and safety measures.

A pH level of greater than 10.3 has been targeted within the leach circuit to limit hydrogen cyanide evolution during the leaching process. The pH is maintained through the addition of lime directly into the first leach tank. The pH is monitored by an inline pH probe as well as manually.

The operation has identified areas and activities where workers may be exposed to cyanide in excess of 10 ppm and require use of Personal Protective Equipment (PPE) in these areas or when performing these activities. Where the potential exists for significant cyanide exposure, the operation uses personal and fixed monitoring devices to confirm that controls are adequate to limit worker exposure to HCN gas. Ten fixed hydrogen cyanide analysers have been placed in areas which were determined to be at the highest risk of exceeding 10 ppm on an instantaneous basis. The fixed HCN monitors are set up to relay an alarm back to the control room should the HCN levels exceed 10 ppm.

People working in areas or conducting activities where there is a higher risk of HCN exposure also wear personal monitors on site. Areas where personal HCN monitors are required are sign posted accordingly.

HCN monitoring equipment is maintained, tested and calibrated as directed by the manufacturer, and records retained for at least one year.

Warning signs have been placed in areas identified as being at high risk of being exposed to cyanide. The signs state that cyanide is present, and that smoking, open flames and eating and drinking are not permitted. Gates have also been installed to prevent access to these areas should the levels exceed 10 ppm and require further investigation.

Signage is present indicating the specific PPE that must be worn when entering the area. The specific PPE requirements when working with cyanide are also covered and explained during the Process Plant Induction package, which incorporates a Cyanide Induction. The training package also stipulates no smoking, eating and drinking areas.

Showers, low-pressure eyewash stations and dry-powder fire extinguishers are strategically located throughout the operation in the cyanide areas, and are maintained, inspected and tested on a regular basis.

MSDSs, first aid procedures and informational materials on cyanide safety were available in the language (English) of the workforce and are available in areas where cyanide is managed.

No cyanide related incidents relating to worker exposure were reported to date, however the mechanisms are in place for investigation and evaluation. There is a scaled investigation system where all high potential incidents are investigated using the TapRoot investigation system.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 6.3**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The Cowal Gold Mine 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 operations personnel carry a two way radio allowing personnel to sound the alarm and communicate back to the control room in the event of an emergency. There is an adequate water supply for cyanide decontamination through the showers and eyewash stations. These facilities are linked to the DCS and alarm when activated. Two antidote kits are kept in the first aid room for emergency use only by an authorised medical practitioner.

Oxygen resuscitation, defibrillation and trauma kits are located at the Mill Control Room, Mining Hardstand and Geology Core area. The Emergency Response Team (ERT) also has dedicated equipment that they maintain.

The operation does inspect its first aid equipment regularly to ensure that it is available when needed, and materials are stored and/or tested as directed by their manufacturer.

The operation has developed and implemented a site specific Cyanide Emergency Procedure (CEP) to respond to cyanide incidents.

The operation does have its own on-site capability to provide First Aid or medical assistance to workers exposed to cyanide. The Cowal Gold Mine is manned by a dedicated Emergency Response Officer 24 hours a day seven days a week. There is also a fulltime Emergency Response Coordinator working five days a week that is on call 24 hours a day seven days a week.

The operation has established set routes to transport patients to hospital and advised these to the West Wyalong Hospital and NSW Ambulance Service. In the event of a cyanide exposure incident, an ambulance is called to the site and depending on the circumstances the operation may despatch its ambulance to transfer the patient at some point along the designated route. The operation issued a letter to the West Wyalong Hospital Administration Manager requesting that they acknowledge the receipt of two cyanide antidote kits and acknowledge the possibility that it may be required to treat persons affected by cyanide at their facility.

Mock emergency drills are conducted periodically to test response procedures for, and lessons learned from the drills are incorporated into response planning, through debriefs.

The ERT conduct drills on a weekly basis. Hazchem forms a significant part of the training. Cyanide scenarios from the Emergency Response Plan (ERP) have been specifically included in these drills.

Mock emergency drills are conducted periodically to test response procedures for various emergency scenarios, and lessons learned from the drills are incorporated into response planning via debriefs.

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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:

The Cowal Gold Mine is in FULL COMPLIANCE with Standard of Practice 7.1 requiring an operation prepare detailed emergency response plans for potential cyanide releases.

The operation has developed a series of specific written emergency response plans and procedures to respond to emergencies. The CEP is appended to the ERP. The CEP details the required response equipment, responsibilities, and procedures for anticipated cyanide emergencies at Cowal Gold Mine. The intention of this document is to provide a single point of reference for all cyanide incidents on-site where emergency response is required.

The CEP was designed around the Cyanide Code and consequently details specific response actions required by the Cyanide Code.

The Cowal Gold Mine have developed an ERP plan for transportation accidents within the site boundary.

The CEP addresses the notification of potentially affected communities by means of activating the Crisis Management and Recovery (CMR) Team upon escalation of a potential incident. The Crisis Management and Recovery Plan notes that this is the responsibility of CMR Team Member – External Affairs Coordinator.

The CEP also describe specific response actions (as appropriate for the anticipated emergencies such the use of cyanide antidotes and first aid measures.

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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:

The Cowal Gold Mine is in FULL COMPLIANCE with Standard of Practice 7.2, requiring an operation involve site personnel and stakeholders in the planning process.

The operation has involved its workforce and stakeholders, including potentially affected communities, in the cyanide emergency response planning process.

The operation has made potentially affected communities aware of nature of their risks associated with accidental cyanide releases, and consulted with them directly or through community representatives regarding appropriate communications and response.

The operation has involved local response agencies such as outside responders and medical facilities in the cyanide emergency planning and response process. The Cowal Gold Mine Emergency Response Coordinator is invited to attend the Local Government LEMC (Local Emergency Management Committee) meetings which are held on a quarterly basis. The LEMC forum is used to seek ongoing stakeholder comment on the operations emergency planning documents.

Regular contact is maintained between the operation and the West Wyalong Hospital and NSW Ambulance Service.

The operation does engage in consultation or communication with stakeholders to keep the Emergency Response Plan. This is achieved through:

- Mock drills with external responders.
- Training with external responders.
- LEMC.
- Community Environment Monitoring Consultative Committee (CEMCC).

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:

The Cowal Gold Mine 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.

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The elements of the ERP, CEP and procedures do:

a) Designate primary and alternate emergency response coordinators whom have explicit authority to commit the resources necessary to implement the plan.

b) Identify emergency response teams.

c) Require appropriate training for emergency responders.

d) Include call-out procedures and 24-hour contact information for the coordinators and response team members.

e) Specify the duties and responsibilities of the coordinators and team members.

f) List emergency response equipment, including personal protection gear, available along transportation routes and/or on-site.

g) Include procedures to inspect emergency response equipment to ensure its availability.

h) Describe the role of outside responders, medical facilities and communities in the emergency response procedures.

The Cowal Gold Mine has confirmed that outside entities included in the emergency response plan are aware of their involvement and are included as necessary in mock drills or implementation exercises.

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:

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

The Plan does include procedures and contact information for notifying management, regulatory agencies, outside response providers and medical facilities of the cyanide emergency.

Cowal's Crisis Management Plan, Emergency Response Plan and Cyanide Emergency Procedure include procedures and contact information for notifying potentially affected communities of the cyanide related incident and any necessary response measures, and for communication with the media.

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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	

Summarise the basis for this Finding/Deficiencies Identified:

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

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

- Recovery or neutralisation of solutions or solids.
- Decontamination of soils or other contaminated media.
- Management and/or disposal of spill clean-up debris.
- Provision of an alternate drinking water supply.

The Plans prohibit the use of chemicals, such as sodium hypochlorite, ferrous sulphate and hydrogen peroxide to treat cyanide that has been released into surface water.

Section 6.2.3 of the ERP 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.

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:

Cowal 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 relevant emergency plans and procedures have provisions in place to evaluate and revise the document after any cyanide related emergency requiring its implementation. Reviews were noted as being conducted.

The plans are also reviewed as needed after an emergency event or drill. Formal mock emergency response drills based on cyanide scenarios are conducted, as required in the Emergency Evacuation Procedure and Crisis Management Plan, followed by debriefs with corrective actions.

No cyanide emergency has occurred to date.

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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:

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

There are a number of training packages that cover cyanide hazards to varying degrees depending on the work requirements and autonomy of the target audience. All of these training packages (Site Induction, Cyanide Awareness, Cyanide Worker Package and Processing Induction) are refreshed annually. Records are retained as hard copy in training files that are organised according to the individual and information on the currency of the training is also documented in an on-line system.

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

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

Task training is based predominantly on procedures that have been developed for foreseen tasks that entail the risk of cyanide release or exposure; workers are also trained in job hazard analysis and field level risk assessment to ensure they have skills to deal with situations that arise for which standard operating procedures have not been developed. The training requirements for each job are documented formally in a Risk Information Management System (RIMS); this computer system provides a framework for tracking initial and refresher training of each employee. Training is delivered by a mix of personnel who bring strengths based on the operational experience, training and assessment expertise, technical capabilities and expertise in risk management from both prevention and incident response perspectives. The responsibility conferred on personnel is increased progressively as they pass written tests demonstrating their understanding of cyanide hazards, risk management principles and then demonstrate their applied understanding and skill to supervisors and trainer/assessors who ultimately deem them competent to work unsupervised; a cyanide task is only performed alongside a buddy until the competence assessment is passed for the task. Training is refreshed as part of the six training days held annually and also through regular use of the "STOP" process through which supervisory personnel evaluate the performance of tasks in detail on a daily basis;

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STOP provides a framework for individual coaching in task performance as well as an assessment tool. Other training assessment tools are written tests and the observation of task performance over an extended period (primarily when workers are new to a task). Comprehensive records are retained by the organisation in both personal training files and in on-line systems that track the currency of training and the conduct of STOP assessments.

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 8.3**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

Cowal 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.

All cyanide unloading, mixing, production and maintenance personnel are trained in the procedures to be followed if cyanide is released.

The CEP notes that cyanide exposure scenarios represent a real risk to the operation and as such the CEP details the Cyanide Exposure and First Aid Procedure to be followed in the event that a person is suspected of being exposed to cyanide.

All emergency response team members who would respond to a cyanide exposure, have been trained in the application of the Cyanide Emergency Response Plan. This training deals directly with the roles and responsibilities of the team members, and is complimented by competency based assessment. ERT members also trained to Certificate III Occupational First Aid, including Advanced Resuscitation and Defibrillation Qualifications.

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. The Cowal Gold Mine Emergency Response Coordinator is invited to attend the LEMC meetings which are held on a quarterly basis. The Emergency Response Coordinator uses the LEMC forum to table the Cowal Gold Mine ERP and CEP for stakeholder comment. External agencies and rescue professionals are also invited to attend periodic emergency mock drills on-site.

Records are retained documenting the cyanide training, including the names of the employee and the trainer, the date of training, the topics covered, and how the employee demonstrated an understanding of the training materials.

Refresher training for response to cyanide exposures and releases is conducted for all treatment and maintenance personnel.

Simulated cyanide emergency drills are conducted for training purposes for surface workers and the ERT. Numerous mock emergency response drills were conducted during the audit period to test the application of the ERP. The following drills included cyanide release and exposure scenarios and involved the Cowal Gold Mine ERT and external responders:

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- 6 September 2008. Motor vehicle accident while unloading cyanide during sparging. Couplings dislodge from truck resulting in wet product spill and cyanide exposure. Attended by ERT and Condobolin Fire Brigade (Hazmat Agency).
- 2 July 2009. Exposure of truck driver to liquid cyanide while sparging isocontainer. Spill flowed to uncontained environment. Attended by ERT and West Wyalong NSW Fire Brigade, Bland Temora Bush Fire Brigade and NSW Ambulance Service.

The scenarios include exposure and environmental release scenarios.

Debrief sessions are conducted for all drills and learning are incorporated into plans and procedures as applicable. All actions to be undertaken post debrief are tracked through the CRMA (Cowal Risk Management Applications) system. This system tracks the action requirements, responsibilities and outcomes to ensure all actions are tracked through to close out.

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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:

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

Cowal has a number of methods where there is opportunity for stakeholders to communicate issues of concern regarding cyanide. Cowal's initiatives include:

- Complaints Line
- Barrick Cowal Email Address (cowalinfo@barrick.com)
- Family and Community Open Days
- Site visits
- CEMCC

Corporate initiatives include:

- Barrick email address (publicaffairsap@barrick.com)

In addition to the above measures, Cowal has set up the CEMCC. The CEMCC meets quarterly and discusses issues and questions relating to the site, which can include cyanide. A presentation on "Use of Sodium Cyanide at the Cowal Gold Mine Site" was presented at the last meeting (August 2009). CEMCC include representatives from Barrick, local community and an independent scientist.

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:

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

Cowal has a number of methods where there is opportunity for it to communicate with its stakeholders. Cowal's initiatives include:

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- Radius Map.
- Barrick Cowal Email Address.
- Family and Community Open Days.
- Site visits.
- General Inductions.
- Visitor inductions.
- CEMCC.

Corporate initiatives include:

- Website information (www.barrick.com > Corporate Responsibility > key topics > Cyanide Management).
- Barrick email address (publicaffairsap@barrick.com).

In addition to the above measures, Cowal has set up the CEMCC. The CEMCC meets quarterly and Barrick can present issues relating to the site, which can include cyanide. A presentation on "Use of Sodium Cyanide at the Cowal Gold Mine Site" was presented at the last meeting (August 2009). CEMCC include representatives from Barrick, local community and an independent scientist.

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:

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

Cowal has developed information packages regarding cyanide management practices and procedures and have created opportunities to interact with stakeholders, specifically employees, contractors and local visitors though inductions, open days and presentations to the CEMCC.

The illiterate proportion of the local population does not constitute a significant percentage of the stakeholders selected for consultation on cyanide and consequently, verbal dissemination of material is not considered warranted. However open days allow for any interested parties to attend and ask verbal questions to available technical staff.

The operation has the mechanisms to make information publicly available on the cyanide release or exposure incidents, where applicable through CEMCC, open days, phone and email lines and visitor and site inductions.

Cowal is required to submit an Annual Environmental Return (AER) to the DECC. The AER details all environmental incidents that occurred on-site during the reporting period.

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In addition to the AER, exposures resulting in hospitalisation or fatality are required to be reported to the Department of Primary Industry (DPI) as part of the NSW Mines inspection Act. Severe incidents that would involve exposures or fatalities would also be covered under the Crisis Management and Response Manual.

CEMCC are presented with a quarterly overview of the sites performance, which includes site incidents such as injuries and spills, including cyanide incidents that required either internal or external reporting. The CEMCC is also presented with monthly WAD cyanide monitoring results, which are forwarded to the DEC on a monthly basis.

Cowal's Crisis Management and Recovery Plan (CMRP) identifies response measures required for various situations. Section 13 defines the reporting levels required for an internal reporting event, minor event, alert, site area disaster and general areas disaster, all which can be related to cyanide spills. The CMRP defines the communication responsibility and procedures required for each level of incident.

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APPENDIX A

Limitations

LIMITATIONS

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