SUMMARY AUDIT REPORT

INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Gold Mining Operations

Summary Audit Report Form

For The
International Cyanide Management Code

www.cyanidecode.org

July 2005

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Bulvanhulu
Name of Mine

Signature of Lead Auditor

11th February 2009
Date
Name of Mine: Bulyanhulu Gold Mine
Name of Mine Owner: Barrick Gold Africa Limited
Name of Mine Operator: Bulyanhulu Gold Mine Limited
Name of Responsible Manager: Greg Walker
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Location detail and description of operation:

Bulyanhulu Gold Mine (BGML) is located in north-west Tanzania, approximately 45 km south of Lake Victoria at an elevation of 1,200 metres above sea level. Construction of the project commenced in 1999 and the mine was commissioned in March 2001. A new CIL circuit was added in 2006, prior to which cyanide was not used at the site. Life expectancy of the mine is approximately 30 years. All administrative, processing and support facilities associated with the mining operation are contained within a 1.4 km² fenced area. Exploration activities are underway within the greater 49 km² SML 44/99 lease area (Reef 2) lease area.

Figure 1: Location Plan of Bulyanhulu Gold Mine
Gold bearing ore is mined at BGML using conventional underground mining techniques. Initially these were accessed by means of a decline shaft via a box cut. Subsequently the decline has been extended to near surface by means of a cover (tunnel) and the box cut has been largely backfilled with waste rock. Access has been further increased by the addition of a vertical shaft and hoist.

Ventilation is currently provided via three ventilation shafts. Two additional ventilation shafts are anticipated in the life of mine (LOM) plan and two refrigeration plants will be added. Mined out voids are being backfilled with paste tailings, aggregate and cement mix. This paste is delivered to the underground workings via four boreholes, three situated at the paste backfill plant and one 200m distance away.

The processing plant at the Project is designed to process an average of 3000 dry tonnes of ore per day. The plant operates on a 24 hours per day, 365 days per year basis. Ore is delivered from the underground mine to a jaw crusher. It is then ground in a SAG and ball mill circuit. Classifiers separate material to either the gravity circuit or the flotation circuit. Overflow from the Knelson concentrators is returned to the flotation circuit. Underflow is directed to an Acacia intensive cyanide leach system. Residual Material from the Acacia leach system is fed back into the grind circuit and into the flotation and CIL circuit. The flotation circuit is used to produce a copper-gold concentrate product. Tailings from the flotation circuit are then fed to a CIL circuit. Gold is stripped from the activated carbon in a 2 stage elution circuit. Gold is then extracted from the pregnant solution by electrowinning. Gold laden cathodes are smelted on site to form doré bars that are typically 70% gold and 14% silver. These are shipped off site for further refining.

The tailings from the leach plant are detoxified using sodium metabisulphite prior to being pumped to a paste plant. All tailings are dewatered in a paste plant. A portion (approximately 35%) of the tailings stream from the processing plant is used to provide structural support underground. The rest of the tailings are pumped as a paste (approximately 75% solids) to a series of surface storage cells which comprise the tailings storage facility (TSF). The paste is pumped into the storage cells via a series of distributions towers, resulting in a convex tailings stack in the form of a series of cones. Because the tailings have been dewatered to form a paste, and because of the geometry of the stack, there is no decant pond in the Bulyanhulu TSF. Nonetheless there are ponds associated with the TSF to control surface water run-off and sediment transport.

The first cell was constructed during 1999 and is currently still in operation. A second cell has recently also been commissioned increasing the TSF footprint from 31 to 63 hectare (ha). These cells are constructed by means of establishing a perimeter embankment approximately 3 meters (m). Each cell is approximately 790m long (East-West) by 300m wide (North-South). It is anticipated that another three cells will be required over the life of the mine. The facility will cover an area of approximately 118.5 ha at the end of the mine life.
Run-off from the TSF is managed through a series of 3 sedimentation ponds, and 2 reclaim ponds. The complete TSF complex is surrounded by a storm water trench along the downstream toe. A seepage collection trench has been provided downslope of the sedimentation ponds and the reclaim water ponds. The trench drains towards a sump located on the eastern flank of the reclaim water pond. Water can be pumped from the sump into the reclaim water pond and returned to the plant for re-use.

The primary industrial water supply is obtained from Lake Victoria via a 45 km pipeline delivering into the lined fresh water make up pond. Water pumped from the underground workings is delivered to the mine water settling ponds and then used as industrial water supply.

The site is provided with a series of earth drains to manage surface water run-off. One set of earth drains diverts clean storm water run-off away from areas of potential contamination. Areas where contamination could potentially arise are served by lined drains which lead to the plant site runoff pond. Overflow from the plant site runoff pond goes to the return water pond.
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AUDITOR’S FINDING

This operation is in full compliance with the International Cyanide Management Code.

Audit Company: Golder Associates (UK) Ltd
Audit Team Leader: Alistair Cadden C.Eng MIMMM AIEMA
E-mail: acadden@golder.com
Names and Signatures of Other Auditors:

Sofia Grahn
Laura Steele AIEMA

Dates of Audit: 10th August 2008 to 15th August 2008

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Gold Mine Operations and using standard and accepted practices for health, safety and environmental audits.

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1. PRODUCTION: Encourage responsible cyanide manufacturing by purchasing from manufacturers who operate in a safe and environmentally protective manner.

Standard of Practice 1.1: Purchase cyanide from manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide, and to prevent releases of cyanide to the environment.

The operation is in full compliance with Standard of Practice 1.1

Bulyanhulu purchases its sodium cyanide from Orica under a Sodium Cyanide Supply Agreement. In addition to the contract, Orica, the cyanide producer, was certified as compliant under the Code on 28/11/06

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.

The operation is in full compliance with Standard of Practice 2.1

Bulyanhulu is in FULL COMPLIANCE with Standard of Practice 2.1. Bulyanhulu purchases its sodium cyanide from Orica under a Sodium Cyanide Supply Agreement, developed by the parent company Barrick Tanzania. This agreement covers the responsibilities of this supplier and all its subcontractors and requires 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. Specific requirements of the cyanide supply agreement include that:

- All goods must be packed, marked and transported in a proper and suitable manner and in all cases in accordance with industry best practice.

- The supplier shall at all times comply with the International Cyanide Management Code.

- The transporter and all subcontractors used for delivery of cyanide, have successfully passed third-party independent Code certification audits or alternatively, an equivalent audit demonstrating responsible cyanide management for either the individual transport company’s activities or the transport activities along the entire supply chain.

It is considered that this constitutes full compliance with the code.

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

The operation is in full compliance with Standard of Practice 2.2

Bulyanhulu sources all its sodium cyanide requirements from Orica Australia Pty Ltd. The Supply Agreement requires that the Suppliers and transporters and their sub-contractors are certified under the Code.

An audit of the cyanide supply chain has been carried out at the end of January 2008. Cyanide produced by Orica at its Yarwun plant in Queensland, Australia, bound for Tanzania is packaged in intermediate bulk containers (IBC), which are in turn packed into a container. A maximum of 20 IBCs can be packed into a freight container with a maximum gross weight of 28 tonnes. The containers are loaded at Yarwun and transported, by road, two km to the Mt Miller rail yard by Toll Resources (Gladstone); here QR National transports the product via rail to the Brisbane Multimodal Terminal located at the Port of Brisbane. The containers are exported through the Port of Brisbane and delivered by shipping company MSC to the port of Dar es Salaam in Tanzania.

A Code Equivalent Third Party Audit assessed transportation within Queensland as being fully compliant in March 2007.

Due diligence audits have been carried out of Port of Brisbane (May 2007), Port of Dar Es Salaam (December 2007), Port of Mombasa (December 2007) and of Maersk Shipping Company (April 2007). A review of Orica’s due diligence evaluations has been completed by a qualified transportation expert pre-certified by the ICMI. The Auditor was satisfied that the due diligence assessments completed for the Ports of Brisbane (Australia), Dar es Salaam (Tanzania) and Mombasa (Kenya), and for the shipping of cyanide between the ports by the Mediterranean Shipping Company (MSC) demonstrate that Orica has reasonably evaluated these facilities and their cyanide-related operations and that necessary management measures are implemented to the extent practical, satisfy the requirements of both Orica itself and of the ICMC.

An audit of the cyanide transporters within Tanzania, FFT and FFK, was carried out in January 2008, and both were certified compliant with the code on 22/05/08 and 27/05/08 respectively.
3. **HANDLING AND STORAGE:** Protect workers and the environment during cyanide handling and storage.

**Standard of Practice 3.1:** Design and construct unloading, storage and mixing facilities consistent with sound, accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.

The operation is in full compliance with Standard of Practice 3.1.

Reagent cyanide is delivered to the site in briquette form in 1.1 tonne woven textile bulk bags. The bulk bags are placed inside a polyethylene bag and into a plywood box with integral pallet. The boxes are transported in secure sea containers. The container is lifted from the truck bed by crane and the boxes are unloaded from the container with a fork lift truck in accordance with Bulyanhulu’s Safe Work Procedure SWP 02.

The cyanide store comprises a purpose built steel framed building with a pitched roof and a passive ventilation system. This design meets the cyanide manufacturer’s requirements for cyanide storage and is considered to be in accordance with sound engineering practices. The design was approved by the Tanzanian authorities as part of the mine permitting procedure. The facilities meet code requirements in terms of siting general layout and all major design principles. QA/QC documentation is available for the construction of the facilities. The store complies with requirements of the Tanzanian permitting authorities. The cyanide supplier was involved in the facility design.

Hi-Lo level alarms have been fitted to the cyanide mixing and storage tanks to avoid spillages. The cyanide is stored away from people and surface water courses. Spill containment measures in the form of concrete pads and bunding has been provided in the cyanide mixing areas to contain any spillage that may occur.

**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.

The operation is in full compliance with Standard of Practice 3.2.

The operation has developed and implemented plans or procedures to prevent exposures and releases during cyanide unloading and mixing activities.

Procedures for unloading, handling and mixing cyanide cover the following issues:
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- Obtaining the necessary permissions to take cyanide for the store, PPE, testing safety equipment, operation of manual and automatic valves, removal of cyanide from the boxes and safe lifting of the bags, decontamination of the bags, spillage control, and clean up of the area after mixing;

- Handling cyanide containers to ensure they are not punctured or ruptured during handling. This includes the use of a banksman for assisting the forklift driver while unloading boxes for the cyanide store;

- Limiting the height of stacking of cyanide containers to a maximum of 4 boxes high, in accordance with the manufacturer’s recommendations;

- Timely clean up of any spills of cyanide during mixing. Equipment is on hand in the vicinity of the storage and mixing area to clean up and neutralise any spills. This procedure is detailed in SWP00 ‘Cyanide: cleaning dry spill’; and

- Use of full PPE comprising full face mask and canister, chemical protection suit, long rubber gloves, rubber boots, personal HCN monitor and radio for all mixing crew members.

A 2 man team is required to carry out cyanide mixing, one of who acts as an observer while the other is working.

With respect to procedures and their implementation for empty cyanide containers, empty NaCN containers are disposed of such that they cannot be used for other purposes. The cyanide bag splitter has an integral washing system. Bulanhu’s SWP calls for washing the bags 3 times. Wooden boxes are dismantled and taken along with the plastic bags and bulk bags to be burnt at the site incinerator. The incinerator is within the secure gold processing compound. This area is guarded to prevent unauthorised removal of the dismantled cyanide boxes and washed bags. No cyanide packaging is returned to the vendor. The inside of the sea containers in which the cyanide is delivered is inspected for spilled cyanide, and cleaned out in accordance with the site’s dry cyanide spill procedure if necessary.
4. OPERATIONS: Manage cyanide process solutions and waste streams to protect human health and the environment.

Standard of Practice 4.1: Implement management and operating systems designed to protect human health and the environment utilizing contingency planning and inspection and preventive maintenance procedures.

The operation is in full compliance with Standard of Practice 4.1

Written management and operating plans or procedures have been developed for cyanide facilities including unloading and storage facilities, leach plants, tailings impoundments and cyanide treatment systems. Procedures have been developed and implemented for the following areas:

- cyanide unloading and storage facilities;
- leaching and detoxification systems;
- tailings storage principles and operations;
- preventative maintenance;
- general risk management procedures;
- cyanide management procedures; and
- emergency management.

There are 62 written procedures with respect to management and handling of cyanide facilities under normal operating conditions. They are grouped in operational sub-divisions, such as ‘day crew’, ‘warehouse’ and ‘CIL-Detox’. A number of computerised systems are in operation at the mine to facilitate data management

- Maintenance schedules controlled in the PRONTO planned maintenance system;
- Water balance controlled using GoldSim software;
- Environmental data managed using EQWin; and
- Environmental, training and safety data managed using RIMS (Responsibility Information Management System).

Record keeping of the inspections and systems ensures that their implementation can be readily tracked.

The plans and procedures include measures such as inspections and preventative maintenance activities. Requirements for maintenance under the Code have been identified to include:

- Tank inspections and refurbishments;
- Tank thickness testing;
- Cyanide Solution Pumps
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- Inspection of tailings pipelines
- Hi/Lo level indicators and alarms on cyanide mixing and storage tank
- HCN monitors and
- pH meters.

The operation inspects cyanide facilities on an established frequency sufficient to assure and document that they are functioning within design parameters. Cyanide facilities are inspected daily with inspections recorded on daily logs.

The operation has developed formal cyanide management documents that address contingency procedures for situations when inspections and monitoring identify a deviation from design or standard operating procedures. The focus of the plan is on monitoring freeboard levels and water levels continuously through operation through inspections twice per shift. In the event of a pond becoming too full, the plans allow for moving process water between the various water pond and storm water ponds. The mine has in the past been obliged to discharge excess water from the site, and a written procedure exists to notify and seek permission from the Tanzanian Authorities. The procedure is such that water will not be discharged from potentially cyanide containing waters, but rather from areas such as the waste rock dump reclaim pond.

The operation inspects the following at unloading, storage, mixing and process areas as discussed below:

- tanks holding cyanide solutions, for structural integrity and signs of corrosion and leakage, such as encrustation with salts;
- secondary containments for the presence of fluids, their available capacity and to ensure that any drains are closed and, if necessary, locked, to prevent accidental releases to the environment;
- pipelines, pumps and valves for deterioration and leakage; and
- 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, such as available freeboard and integrity of surface water diversions.

All power requirements for Bulawayhulu are provided from the Tanzanian national grid. There is a back up diesel generator system, which comprises 20 generators in groups of 5 units. The generators have a total capacity of 24 MW, whereas overall site demand is 21 MW. All generator units are checked monthly according the Pronto planned maintenance schedule. It is considered that this provision is adequate to prevent unintentional releases and exposures in the event that primary power supply is interrupted.

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

The operation is in **full compliance** with in Standard of Practice 4.2

The operation conducts a program to determine appropriate cyanide addition rates in the mill and evaluate and adjust addition rates as necessary when ore types or processing practices change cyanide requirements. Records of original metallurgical assessments were available in the Ausenco feasibility study January 2006. Ongoing cyanide addition rates are adjusted based on a combination of bottle roll tests and monitoring the concentration of gold in the head grade and tailings stream. Records of bottle roll tests are held in the plant metallurgists’ office. Once optimum cyanide concentrations have been established, cyanide addition rates are controlled using in-line automatic measurement and manual titrations by the CIL operators. The operation has evaluated various control strategies for cyanide additions and has decided to use manual titration only. As discussed in 4.2.1, ongoing cyanide addition rates are adjusted based on a combination of regular bottle roll tests and monitoring the concentration of gold in the head grade and tailings stream. Records of bottle roll tests are held in the plant metallurgists’ office. Typical cyanide consumption at the operation is 4kg/tonne of gold ore processed in the CIL plant.

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

The operation is in **full compliance** with in Standard of Practice 4.3

Bulyanhulu has developed a comprehensive, probabilistic water balance for the site. Input to the model includes plant throughputs and paste tailings density, which takes into consideration the rates at which cyanide solutions are deposited into tailings storage facility (albeit these are very limited since the tailings is deposited as a paste at around 75% solids content, and the tailings pass through a detoxification circuit prior to discharge to the tailings storage area). The model simulates rainfall on a daily basis derived from rainfall records form the region dating to 1966. Storm events have been derived from the rainfall records and are applied using a Monte Carlo simulation technique. This rainfall record generator was used to generate 10-year daily rainfall sequences that match the rainfall pattern at the Bulyanhulu Mine at daily, weekly, monthly, annual and 10 year durations. A 1 in 100 yr 24hr storm event of 357mm has been applied in the model. It is considered that this approach provides a sufficient degree of confidence that overtopping of the pond or impoundment can be prevented during the operational life of the facility.

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Based on the site topography and water diversion measures, surface runoff from the up gradient watershed has been excluded from the model as it is completely captured and diverted, and cannot enter an impoundment or pond. Since the site is at an equatorial latitude at moderate altitude (1200masl) the effects of potential freezing and thawing conditions on the accumulation of precipitation within the facility and the up gradient watershed are not relevant to Bulyanhulu.

Seepage modeling has been undertaken to estimate losses into the ground for incorporation into the model. There are no surface water discharges from cyanide facilities at Bulyanhulu.

The effects of potential power outages or pump and other equipment failures on the drain down from a leach pad or the emergency removal of water from a facility have been considered in the model. Contingency plans including the provision of diesel powered back up pumps have been put in place in the unlikely event that both the electricity grid and on site back up power generation systems fail and the pumps also fail.

Existing operating procedures incorporate inspection and monitoring activities to manage the risk of overtopping the TSF and other impoundments including the Tailings run-off collection ponds, process water ponds and waste rock dump collection ponds. The probabilistic water balance model is being used to actively manage the site’s water balance to ensure adequate supply of water to the processing plant and to prevent unintentional releases of cyanide solutions. It is also used to establish when water discharges may be required from the waste rock dumps collection ponds or mine dewatering systems to ensure management of the site water balance. Site precipitation records have been compared to the design assumptions, indicating that the site is wetter than originally anticipated. This has been taken into consideration in the operation’s updated water management plans.

*Standard of Practice 4.4:* Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

The operation is in **full compliance** with Standard of Practice 4.4

The operation has implemented measures to restrict access by wildlife and livestock to open waters where WAD cyanide concentrations exceed 50mg/L. Data from the daily monitoring of the CIL plant shows that the CN WAD concentration sent to the tailings storage area is generally below detection limits. This is considered adequate protection of wildlife.

Records maintained at Bulyanhulu demonstrate that wildlife mortality is not a significant issue. There has been no wildlife mortalities reported at the facility.
**Standard of Practice 4.5:**  Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

The operation is in **full compliance** with Standard of Practice 4.5

Bulyanhulu operates a facility with no direct or indirect discharges are made to surface water courses from cyanide facilities. Discharges are occasionally necessary from the waste rock dump collection ponds, as approved by the Lake Victoria Water Basin Office. Groundwater monitoring around the site and the tailings dam indicates that the operation is not indirectly discharging to this surface water body, as cyanide has not been detected in any groundwater samples to date.

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

The operation is in **full compliance** with Standard of Practice 4.6

There is no beneficial use of groundwater immediately downgradient of Bulyanhulu.

Bulyanhulu implements water management measures to manage seepage to protect groundwater beneath and immediately downgradient of the operation. Analyses of groundwater sampled from the monitoring wells show WAD cyanide has not been detected to date. The detection limit for WAD cyanide analyses performed by Anglo American Technical Services is 0.001mg/l. The records viewed for 2008 show maximum WAD cyanide concentration below detection limits.

The operation uses mill tailings as underground backfill. The tailings pass from the CIL circuit to a cyanide detoxification system using sodium metabisulphite. The tailings are then thickened, with the overflow returned to the CIL circuit and sent to the paste backfill plant where they are filtered and repulped to about 75% solids and cement is added. The residual CN\text{WAD} concentration in the thicken underflow is less than 20ppm. Monitoring for HCN and CN\text{WAD} in the mine workings shows that both are below detection limits.

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

The operation is in **full compliance** with Standard of Practice 4.7
Secondary containments 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. Where secondary containment is established there are arrangements (sumps and pumps) for the spilled material to be pumped automatically to appropriate locations within the processing plant. The cyanide process tanks all have secondary containment (i.e. they are built onto concrete plinths, not ring beams).

Secondary containments 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. The bunded areas have been surveyed by the mine survey team to calculate their containment capacity, as follows:

- CIL/Tailings thickener area bund capacity 210m³: max tank size +10% 165m³
- Reagent area bund capacity: 87m³: max tank size +10% 47m³
- Elution area bund capacity 257m³: max tank size +10% 58m³
- Detox Area bund capacity 445m³: max tank size +10% 47m³

Where secondary containment is established there are arrangements (sumps and pumps) for the spilled material to be pumped automatically to appropriate locations within the processing plant. Sump pumps are controlled by high-low switches and were seen to be operational at the time of the site inspection where hose down water had collected.

Spill prevention or containment measures are provided for all cyanide solution pipelines to collect leaks and prevent releases to the environment. Materials of construction identified in use are stainless steel, carbon steel and polyethylene.

**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.

The operation is in full **compliance** with Standard of Practice 4.8

The operation 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. Comprehensive QA/QC records, reports and inspection reports are held by the construction department. These cover concrete works for the CIL plant, pipe work, earthworks for the tailings storage area and ponds, and geomembrane installations for the ponds works.

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

The operation is in full **compliance** with Standard of Practice 4.9

The operation 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. Bulyanhulu personnel conduct all environmental ground water monitoring for both compliance and internal purposes. Selected surface water and process water samples are also collected. This work is conducted in accordance with written procedures contained within a sampling manual developed by Norccol, Dames and Moore, and Ed Clerk of Barrick Gold. The manual contents include information on:

- general safety;
- groundwater monitoring;
- water quality analysis;
- infield methods and procedures;
- monitor bore purging;
- miscellaneous sampling;
- tails slurry sampling;
- sampling handling storage and delivery;
- laboratory reporting;
- data management;
- assignment completion; and
- document review.

Groundwater sampling conditions and procedures are documented in writing.

Monitoring is conducted at frequencies adequate to characterise the medium being monitored and to identify changes in a timely manner. To date there have been no reported wildlife mortalities attributable to the use of cyanide.
5. **DECOMMISSIONING:** Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities

**Standard of Practice 5.1:** Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

The operation is in **full compliance** with Standard of Practice 5.1

Bulyanhulu Gold Mine Limited (BGML) initially undertook an environmental impact assessment and compiled an environmental management plan (EMP) in 1999. The EMP was revised in 2001, 2003 and again in 2007 in order to keep it up to date with various changes in the mining and processing plans. The EMP includes a brief section on reclamation and closure and also a commitment to compile a detailed Reclamation and Closure Plan (RCP). BGML compiled a RCP and closure cost assessment in 2002. Following the introduction of a CIL circuit as part of the processing route in 2007, the RCP was updated (RCP, May 2008).

The Reclamation and Closure Plan Review 2007 (finalised in May 2008) outline that:

- Management measures will need to be put in place for the removal and/or destruction of any remaining cyanide and to ensure that any remaining contamination is within acceptable limit;
- General reclamation activities, such as that of a detailed cyanide decommissioning plan, will be developed and implemented to protect human health, wildlife and livestock;
- All areas of residual cyanide will be identified and assessed for decommissioning;
- Washing and flushing will be carried out of all facilities potentially contaminated with cyanide;
- All wash water will go through a cyanide destruction step of treatment;
- Treated water will be pumped to the TSF; and
- Any remaining cyanide will be returned to supplier, sold to third party or destroyed.

The Decontamination and Decommissioning Plan (August 2008) (the Plan) is for the decommissioning and decontamination of the processing plant and associated infrastructure. It principally focuses on the decontamination of cyanide, but also covers the removal of other process chemicals from the site. The Plan covers site description; health and safety considerations; decontamination and decommissioning; area specific plans; implementation schedule; and, audit and review requirements.
The section on decontamination and decommissioning includes the sources of contamination, and the guiding principles as it relates to a cyanide decontamination area to effectively deal with the decontamination of equipment and materials; equipment decontamination; decontamination of cyanide spillages; cyanide treatment reagents; tank cleanout; decontamination in high, medium and low cyanide areas; and disposal of reagents.

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

The operation is in **full compliance** with Standard of Practice 5.2

A detailed cost estimate for third party implementation of works has been included in the decommissioning plan. This has been calculated at approximately $22.3 million. The operation has established a self-guarantee as a financial assurance mechanism to fund the anticipated closure and decommissioning costs at Bulyanhulu. A statement has been provided by a qualified financial auditor, McMullen McPhee & Co. LLC that Bulyanhulu has sufficient financial strength to fulfill this obligation as demonstrated by U.S. Code of Federal Regulations at 40 CFR 264.143(f), 30 CFR 800.23, 10 CFR 30, Appendix A. McMullen McPhee LLC is a Certified Public Accountant firm licensed (License no.LLC-0101, valid until 31/12/08) in Nevada, USA. Proof of their licensure is found on the State of Nevada's website: [http://www.nvaccountancy.com/search.fx?show=4115](http://www.nvaccountancy.com/search.fx?show=4115)
6. WORKER SAFETY:  

Protect workers’ health and safety from exposure to cyanide.

**Standard of Practice 6.1:** Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce or control them.

The operation is in full compliance with Standard of Practice 6.1

The operation has a series of SWPs for both the processing and for maintenance tasks in the processing plant area relating to cyanide tasks.

The procedures require, where necessary, the use of PPE and address pre-work inspections.

The operation has procedures to review proposed process and operational changes and modifications for their potential impacts on worker health and safety.

The operation formally solicits and actively considers worker input in developing and evaluating general health and safety procedures through safety cards and safety meetings.

**Standard of Practice 6.2** Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

The operation is in full compliance with Standard of Practice 6.2

The operation has established pH for the operation of the plant depending on the ore being processed; this is controlled through manual measurements as well as continuous monitoring.

Where the potential exists for significant cyanide exposure, the operation does use personal monitoring devices to confirm that controls are adequate to limit worker exposure to HCN gas and personal HCN monitors are worn.

The operation has identified areas and activities where workers may be exposed to cyanide in excess of 10 ppm. The personal HCN meters are set to alarm at 4.7 ppm and 10 ppm. If the alarm sounds, the SWP requires evacuation of all personnel from the area and barricading to prevent entry. The shift supervisor then designates someone to investigate the source of the elevated concentration, wearing appropriate personal protective equipment (PPE) (self-contained breathing apparatus and chemical resistance overalls).

Bulk sodium cyanide solution unloading and cyanide emergencies have been identified to be high risk activities that require a high level of PPE whilst performing these tasks.
The HCN personal monitoring equipment is maintained, tested and calibrated as directed by the manufacturer. In addition to the personal cyanide detectors, Bulyanhulu also have five fixed HCN detectors. Only one of the sensors was working at the time of the audit. New sensors have been ordered. Therefore, four of the fixed detectors were marked as out of use at the time of the audit. The personal cyanide detectors are mandatory in cyanide hazard areas. It was understood via verbal communication with the Safety & Training Foreman that provisions will be put in place to ensure that at no future point in time, will all sensors be out of action at once.

Signage at the cyanide storage and processing area stipulates that no eating, drinking and smoking is allowed, as well as that HCN monitors must be worn. Access is restricted to the processing plant area and cyanide storage area; eating and drinking and smoking is restricted to designated areas.

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

Tanks and piping containing process solutions (i.e. >0.5 mg/l. WAD) were adequately labelled.

MSDSs, first aid procedures and Cyanide Response Cards were available in the language (English and Swahili) of the workforce and are available in areas where cyanide is managed.

The Incident/Injury Reporting and Investigation Procedure covers the requirements associated with the reporting, recording, investigating and implementing corrective action of incidents and injuries. Procedures are in place, and are being implemented, to investigate and evaluate cyanide exposure incidents to determine if the Bulyanhulu programmes and procedures to protect worker health and safety, and to respond to cyanide exposures, are adequate or need revising. As an incident occurs, the incident report form is completed by the individual and their supervisor. This is then entered into the RIMS System, where corrective actions are entered and tracked to ensure that the relevant personnel close them out.

**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 Standard of Practice 6.3.

The operation has the necessary equipment to respond accordingly in the event of a worker exposure to cyanide, including appropriate equipment to monitor for metabolic-acidosis. The operation has developed specific written emergency response plans and procedures to respond to cyanide exposures. These are specifically detailed within the operation’s Emergency Crisis Management Plan (ECMP). This addresses cyanide emergencies, cyanide detoxification procedures, and environmental spill procedures. Aspects of the ECMP also address emergency response procedures to respond to potential cyanide exposures. In addition to this, procedures detailing the necessary response to cyanide exposures are included in the induction and training materials and Cyanide
Response Cards and Material Safety Data Sheets (MSDSs), which are positioned around the Process Plant, particularly around the cyanide storage, unloading and mixing areas. There is an on-site medical facility equipped and staffed to treat cyanide exposed workers. Medical emergency equipment is regularly inspected and personnel on site are suitable trained to provide medical assistance. There are five resuscitators, plus additional oxygen supplies present within the plant at various locations. These include at a close distance from the cyanide unloading, storage and mixing location. In addition to oxygen supplies as treatment method for cyanide-patients, suitable antidotes are retained at Bulyanhulu. These are maintained under suitable conditions and temperature range predominantly within the Clinic, but emergency ampules of amyl nitrate are also kept at the Process Plant Control Room and the Acacia Room in order to have it closer at hand for faster administration if required. These antidote supplies are also kept under suitable conditions and temperature range and are included on checklists to ensure they are replenished accordingly when past their use-by-dates. The kits seen by the auditor at the time of the audit were due to expire mid 2009.

A fully trained and equipped Emergency Response Team (ERT) is available. All 29 ERT members are trained to provide a suitable level of first aid treatment. All Process Plant personnel are instructed on the actions to take in the event of a cyanide exposure. All process plant operators and maintenance personnel must also attend the Emergency Cyanide Poisoning Treatment Training to ensure they develop knowledge and skills required in conducting first aid in the event of acute cyanide exposure (poisoning) using special rescue kit (Oxy Viva Unit) and administration of inhalant Antidote (Amyl Nitrite).

Procedures are in place to contact International SOS, an external response agency, to provide assistance with medical evacuation. Evidence of the contract between ISOS and Bulyanhulu was seen by the auditor at the time of the audit. Contact has also been made by Doctor Mtaita via telephone (February 2008) with Aga Khan, Bugando and Nairobi Hospitals so that they are aware that in the unlikely event of a very large number of people being involved in an serious accident, or a Particularly Complicated patient(s), external assistance may be required.

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

The operation is in **full compliance** with Standard of Practice 7.1

The operation has developed specific written emergency response plans (ERP) and procedures to respond to cyanide exposures. Specific emergency procedures that relate to cyanide emergency incidents are included within the Bulyanhulu Mine ERP. Inclusion is also made to response actions which relate to potential impacts to workers, the community and the environment providing appropriate steps from the immediate response to appropriate mitigation. The ERP includes a detailed emergency procedure for emergency evacuation and assigns defined roles. Evidence that all personnel require training in both the purpose, and testing of the evacuation alarm is also included within the ERP. Additionally, details of the use of first aid measures for cyanide exposure are covered in training received and documents present at the site and are referenced in the ERP.

The site has an on-site facility for treating cyanide poisoning cases and as such no formalized arrangements have been made with local hospitals and/or clinics for on-site assistance. The operation is confident that the on-site medical facility has adequate, qualified staff, equipment and expertise to respond to cyanide exposures.

Mock emergency drills are conducted periodically to test response procedures. Recently compiled emergency drills have included cyanide spills resulting in site evacuation, high HCN levels and ‘man-down’ scenarios. As part of the drill procedures, a ‘Recommendation Action Log’ is in place that highlights deficiencies/follow up actions that are to be completed as a result of the drills. It assigns responsibilities and sets due dates by when the action must be completed. A progress bar colour-coding system is used to track the completion of these actions. The current de-briefing template allows for evidence that corrective actions have been undertaken by a certain date and those which are outstanding.

It is documented and understood that the ERP is revised in line with recommendations from emergencies, emergency drill debriefs and recommendations from the ERP annual reviews.

The use of ferrous sulphate, hypochlorite or other chemicals to decontaminate cyanide spills in waterways is not advocated and this is clearly shown in the ERP. Where it is advocated for dry spills, it is clearly stated the specific circumstances and necessary caution required.
SUMMARY AUDIT REPORT

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

The operation is in full compliance with Standard of Practice 7.2

Bulyanhulu mine site has identified the nearest rural community that could potentially be affected in case of a cyanide-related emergency, and has provided appropriate emergency measures accordingly.

Bulyanhulu has involved external response agencies in case support is needed for treating emergencies and specifically those relating to cyanide incidents. Neighbouring mine sites are involved in the emergency response planning process. The Mutual Aid Agreement with the local mine sites confirms that regular joint training exercises will be undertaken, the first of which was implemented in March 2008. Local communities have been consulted regarding the emergency response plan in the regular community liaison and consultation presentations made by mine staff. There is a formal, internal review of all procedures by site personnel, including the Emergency Management Plan. The operation is in communication with local external medical facilities for treating any cyanide cases. They are also in communication with ISOS.

Bulyanhulu has made stakeholders in the community aware of the plant and procedures via the delivery of routine presentations. The most recent presentation to the school pupils was in March 2008 and for Mavota village. A leaflet has also been produced which has been distributed to local school and taken home by the children to show their parents. This includes details on ‘How do we Transport Cyanide’; & ‘What to do in case of an accident’ (Barrick, Tanzania) and is available in both Swahili and English. If any comments are received with respect to the Emergency Response Plan they are incorporated by the appropriate Safety and Training Supervisor and Emergency Response Team Coordinator following the presentation and/or, via the next ERP training drill or ERP team meeting.

Bulyanhulu has many communication avenues to involve the local communities in various ways as well as providing information on appropriate emergency measures accordingly. These include meetings with community leaders and education programmes at local schools.

The operation are in communication with ISOS and has a Mutual Aid Agreement with the local mine sites.

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

The operation is in full compliance with Standard of Practice 7.3

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In case of a cyanide-related emergency, the ERP designates an Emergency Response Team Coordinator and alternate contact in his absence. Specialised training is given to those designated as members of the emergency response team. The ERP includes a list of emergency response equipment located on-site. This is monitored and regularly checked monthly by Safety & Training Officers via use of an Inspections Checklist. The Emergency Contacts within the ECMP designates appropriate personnel required to respond in case of a cyanide related emergency. These include primary and alternate Crisis Management Team Leaders; and Emergency Services Coordinators. In addition to this, a series of other roles are designated with deputies assigned. This is currently included in tabular form showing name; title; external cell phone number.; room number.; and internal extension line.

The ECMP determines the roles and responsibilities; and contact directories; for both people on-site and those external to the site in case of a cyanide-related emergency.

In addition, the names and contact details of each ERT member is maintained and all members have a pager in order that they may be able to be alerted of their required input at any time. Barrick: Bulyanhulu Gold Mine Limited Emergency Call Report document FM2008P details the procedure(s) for using the pager system. It includes description of the mechanism for contacting all members who are: on-site; rescue members; Hazmat trained. It then describes the system in place whereby there are four different options for the message:

- emergency respond to rescue room;
- emergency respond to surface fire room;
- Hazmat report to surface fire room;
- test page please do not respond.

Bulyanhulu has involved local response agencies including medical facilities in the emergency planning and response process. Bulyanhulu’s clinic has been catered to ensure that the medical facility can be fully self-sufficient (i.e. the operation is capable of taking full responsibility for response to a release). As a result, no on-site role has been agreed with any external medical facilities other than International SOS (ISOS). ISOS have been contacted and are aware that they may be required to deal with cyanide-poisoning cases. It was stated that a victim would be air-lifted to either a hospital in Nairobi or Johannesburg where suitable emergency treatment would be available.

The Mutual Aid Agreement set between the mine sites was confirmed on 30th of January 2008 and measures are in place to implement this; the first of regular training sessions held in March 2008. A ‘paper-based’ mock-drill scenario covering a cyanide-related emergency has also been included as part of the joint training.

The local communities and the police have been made aware of their potential involvement in a cyanide-related emergency through meetings and presentations.

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

The operation is in full compliance with Standard of Practice 7.4.

The Emergency Response Plan includes contact information for notifying management, regulatory agencies, outside response providers and medical facilities that may be involved in a cyanide emergency. Contact details have been addressed and a flow chart is in place that demonstrates how designated individuals are to be contacted in case of an emergency. Contact information to enable notification of a local community that may potentially be affected by a cyanide-related incident is included within the ERP.

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

The operation is in full compliance with Standard of Practice 7.5.

The ERP and associated procedures describe remediation measures as appropriate in case of a cyanide-related emergency. The Plan prohibits the use of chemicals, such as sodium hypochlorite, ferrous sulphate and hydrogen peroxide to treat cyanide that has been released into surface water.

The ERP details cleanup, decontamination and management procedures. Water at Bulyanhulu is currently supplied from Lake Victoria. The ERP states that Bulyanhulu will supply potable water to any person who may be affected by an emergency/incident or who have access to their drinking water restricted as a result of the incident. Water is treated on site and can be supplied to people on site and to the community by potable water bowsers.

Certain environmental procedures that relate to this Standard of Practice are included as appendices within the ERP. Interviews with site personnel confirmed that the Environment Team and ERT work together to prevent or mitigate the potential cyanide release scenarios. Bulyanhulu maintains environmental monitoring procedures which address sampling methodologies, parameters and sampling locations.

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

The operation is in full compliance with Standard of Practice 7.6.

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The operation has recently reviewed its ERP and shows commitment to continuing to do so. Verification within the plan shows it 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 ERP states that the General Manager is responsible for ensuring that emergency drills are periodically conducted in all work areas. Additionally, it is clearly stated that the plan will be revised in line with recommendations from emergencies and emergency drill de-briefs.

Formal mock emergency response drills based on cyanide scenarios have been carried out. Subsequently, full de briefs are performed with detailed corrective actions, allocated to responsible personnel and dates by which they must be closed out. There is also a requirement for signature to ensure that the corrective action has been implemented.
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.

The operation is in **full compliance** with Standard of Practice 8.1.

Bulyanhulu inducts and subsequently trains as necessary all personnel who enter or work at the mine site. Specific cyanide material is included within the general Visitor Induction presentation and further more detailed information on cyanide within the Process Plant Visitor Induction presentation. Chemical/Cyanide training, Courageous Safety Leadership training, Fire Fighting and First Aid training is then given to all site employees and in addition to this, members of the Process Plant undergo the Cyanide & Chemical Awareness Course and Emergency Training (which includes the use of the Oxy-Viva). The ‘Plant Induction, Cyanide & Chemical Awareness Attendance Register’ spreadsheet with status tracker to show if the training course is in date or expired was seen by the auditor. The Process Plant Training Matrix (Training Progression for Process Plant) is a an excel based tool with separate work sheets for each employee indicating training required, training obtained and competency.

The Safety & Training Department have dedicated training and assessment resources in order to deliver these induction and awareness packages. They ensure that anyone likely to encounter cyanide has undergone all necessary training and achieved required pass rates in all relevant tests and assessments prior to any training or work at the plant. Classroom and site-based training is undertaken. Cyanide materials present at Bulyanhulu: health effects and symptoms; plus procedures to follow in the event of an exposure to cyanide are included in training material.

Periodic refresher training in cyanide hazard recognition is undertaken at Bulyanhulu and provided to those who may encounter the chemical.

The Process Plant Training Guideline clearly states that the plant operators must attend the Chemical and Cyanide awareness refresher course every 12 months. At the end of each course, an obligatory assessment must be taken with a pass mark of 75% is required for those individuals not working in the CIL circuit, and 100% for CIL operators and reagent mixing crew.

The Process Plant Training Guideline also states that the CIL operators and reagent mixing crew must attend a refresher course every six months for the Emergency Cyanide Poisoning Treatment Training (use of Oxy-viva unit). Other personnel are required to undergo the refresher course annually.

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Training records are retained in hard copy and electronically where possible and as appropriate on Bulyanhulu's internal server. Interviews with site personnel confirmed that they had received both initial and cyanide refresher training. Each worker has a hard copy file in the Safety Office containing all training records for that person; hard copy records were observed by the auditor. For process plant personnel, the outcome is also recorded on their Process Plant Training Matrix (Training Progression for Process Plant), which is an excel based tool with separate work sheets for each employee, indicating training required, training obtained and competency.

**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.

The operation is in full compliance with Standard of Practice 8.2

The operation trains workers to perform their normal production tasks with minimum risk to worker health and safety and in a manner that prevents unplanned cyanide releases. Standard training materials including Site Induction; Process Plant Induction; Cyanide Awareness (and Refresher); Courageous Safety Leadership; and Chemical Awareness courses were made available to the auditor. All site personnel likely to encounter cyanide must receive this training prior to undertaking any work within the site. After new workers have undergone this classroom-based training, they are given a formal tour of the plant for familiarisation purposes. Following this, the trainee/operator will be given instruction, coaching and mentoring and close supervision.

Specific details on cyanide-related job tasks including unloading, mixing, production and maintenance is available to site personnel and located in Safe Work Procedure (SWP) documents. These have been devised with minimum risk to worker health and safety and in a manner that prevents unplanned cyanide releases. Upon completion of sectional training related to a specific work task, the operator must be able to: outline the safety points of the section; explain the theory behind operation of the equipment in the section; explain the rationale of each step in the section SWP collection; and, be able to perform all tasks according to the SWP without referring to the section booklet. In order to be deemed competent, the trainee/operator must have been assessed in all relevant Safe Work Procedures and deemed competent by his/her Supervisor(s).

Bulyanhulu operates its own training program, both classroom and site-based, implemented by experienced personnel. Trainers use appropriate material(s) to ensure important elements of each job are conveyed (e.g. SWPs). Periodic refresher training in cyanide hazard recognition is undertaken at Bulyanhulu and provided to those who may encounter the chemical.

The operation at Bulyanhulu evaluates the effectiveness of cyanide training by testing and observation. Individuals are assessed at the end of the cyanide awareness presentation and also at the end of each refresher course by means of a documented test. The test must be passed with 75% for those individuals not working in the
CIL circuit, and 100% for CIL operators and reagent mixing crew. Any areas requiring clarification or further attention are reinforced by the trainer, until he/she is satisfied that the worker fully understands.

Records are retained throughout an individual’s employment documenting the training they receive. The records include the name of the employee, the date of the training, the topics covered and if the employee demonstrated an understanding of the training materials. Training records are retained in hard copy and electronically where possible and appropriate on Bulyanhulu’s internal server. Each worker has a hard copy file in the Safety Office containing all training records for that person; hard copy records were observed by the auditor. For process plant personnel, the training results are also recorded on their Process Plant Training Matrix (Training Progression for Process Plant), which is an excel based tool with separate work sheets for each employee indicating training required, training obtained and competency. The auditor viewed hard copies of the CIL Assessment Section documentation for different operators. Each assessment topic is assessed for level of performance, and signed off and dated by the assessor. Each training element has a code identifier (e.g. U6 Cyanide Mix, U15 Cleaning and Repairing Screens), which correlates with the numbering of training elements listed in each persons over-arching Process Plant Training Matrix (Training Progression for Process Plant).

**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 Standard of Practice 8.3.

All cyanide unloading, mixing, production and maintenance personnel are trained in procedures to be followed if cyanide is released. This was verified by site interviews and reviewing training documents. Members of the Emergency Response Teams (ERT) are also trained in procedures if cyanide is released.

All site cyanide response personnel, including those involved in unloading, mixing, production and maintenance must undergo the Cyanide Awareness Course which includes training on first aid procedures. Training in decontamination procedures is provided by the on-job assessment of how the workers undertake any cyanide related task against the appropriate SWP. Routine drills are undertaken for emergency evacuation and ‘man down’ scenarios which test and improve their response skills. It is also understood that a mock drill for a cyanide spill has recently been undertaken that involved site cyanide response personnel. The requirement for mock drills is documented in the Training Program for Bulyanhulu Mine and the Emergency Response Plan. After each drill, a de-briefing procedure is carried out and procedures are amended as appropriate.

The ECMP states that all ERT members will ultimately be trained in First Aid; Vehicle Extrication; Open Circuit Breathing Apparatus; Rope Rescue; Industrial Fire Fighting; Hazardous Materials; and Search and Rescue. Training shall be provided either on or off-site by an accredited training provider or by the Emergency Response Coordinator or his delegate, depending on the type of training. There is also specific training for Cyanide & Oxiviva. Section 19.4 of the ECMP also details the training that is required for ER personnel in addition to general

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training that is required for all. Interviews with ERT members revealed that there are additional training sessions provided e.g. vapour rescue; BG4 closed breathing apparatus; and Cyanide Poison Treatment.

Evidence that this training is provided was seen by the auditor at the time of the audit. For example, a letter from MAT Training was seen revealing details of the courses being run over the period from June 2008 to December 2010 of which include cyanide specific course material.

Bulyanhulu has familiarised outside responders with the cyanide-related elements of the Emergency Response Plan if they have a designated response or responsibility. It is not deemed appropriate to expect the local community members to participate in the emergency response plan, but they have been made aware of what they have to do in case of an emergency situation.

The Mutual Aid agreement signed between Bulyanhulu; Tulawaka; Buzwagi; and North Mara mine sites defines the responsibilities involved. This certifies that each party will ‘...offer support in emergency response when required.’ In addition it is understood that they will:

(a) Conduct regular joint training exercises;
(b) Support the concept of integrated training where applicable;
(c) Provide support in local topographies;
(d) Provide mutual support in regard to the equipment needs of all parties in the event of an emergency.’

The first training session on the implementation of this agreement (The Mine Rescue Challenge session) was held in March 2008 at Bulyanhulu mine. All mine sites retain a copy of the most up-to-date ERP.

Cyanide emergency drills are evaluated from a training perspective following their implementation. As part of this, a debrief template is completed that clearly allows for any necessary corrective action to be assigned to a specific person. A column is included for signature as evidence of when and by whom the action was performed. A member of the Safety & Training team is present at each debriefing session. The viewing of formal emergency response drill debriefs with detailed corrective actions, plus interviews with site personnel have verified this.

Records are retained documenting the cyanide training, including the names of the employee and trainer, the date of training, the topics covered, and how the employee demonstrated an understanding of the training materials. Electronic and paper copies are retained where appropriate and the RIMS database is updated regularly.

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

The operation is in full compliance with Standard of Practice 9.1

Bulyanhulu has carried out an awareness campaign on cyanide to the community around the mine and along the transportation route about the preparedness for emergencies, rescue measures, occurrence, appearance and the chemicals that are used to reduce the potential effects of cyanide to the environment. The methodology for the campaign included presentations, discussions and dialogue with the Environmental Village Committee and public at the villages; distribution of posters and pamphlets; and live music entertainment to the public (which included a song about cyanide). The awareness campaign in March-April 2007 was carried out in the following villages:

- Kakola;
- Bugarama;
- Ilogi;
- Lunguya;
- Shilela;
- Segese;
- Masabi;
- Nitobo (A, B, Kalangwa & Buganzo);
- Nyang'wale;
- Busoka;
- Shuno;
- Nyihogo;
- Nyansubi;
- Mondo;
- Kagongwa;
- Mwakata; and
- Isaka.

During the awareness campaign, the public provided recommendations and suggestions and also raised concerns to Bulyanhulu. Some of the recommendations that have been implemented are the opportunity for villagers to visit the mine site; and the introduction of school training programs. Forty members from each of the following local villages have visited the mine site: Kakola, Bugarama, Ilogi, Gyange, Igwamanoni, Busindi, Busulwangu and Iyenze. The mine site visits also allows opportunity for communication of issues of concern.

All village executive officers have phone numbers to Bulyanhulu's Community Development Office to communicate any issues of concern (including cyanide). Also, Bulyanhulu Environmental Communication Procedure states that “communication from external interested parties and affected
parties may be received by e-mail, telephonically or by mail. A response to all communication will be sent within one month of receiving such communication and will be captured on the Environmental Management System database. From October 2008, a community liaison office will be opened in a local village for easier access for the local community to company representatives. The office will be run by the newly appointed Community Liaison Officer, David Magebe, who will be supported by ten community facilitators from eight villages as well as by a human resources practitioner, grievance mechanism officer, security, and communications, training and development staff.

Bulayanhulu attends monthly village meetings at Kakola, which is the nearest largest community. Quarterly village council meetings are attended in the other local villages.

Bulayanhulu has been acting as facilitators for local Participatory Rural Appraisals (PRA) that are being used to assist local communities in identifying development priorities and developing collective solutions. The outcome of the seven-day PRA process is a Community Action Plan which is governed by the PRA Implementation Committee. Although not directly related to cyanide, this is another example of interactions with the local community where the possibility of raising concerns would be possible.

The presence of the Environmental Department staff in the field has also provided opportunities for villagers to pose questions with regards to cyanide. Materials related to cyanide were disseminated in schools and in the offices of village councils.

Bulayanhulu also provides stakeholders with opportunities to communicate issues of concern via the Barrick Annual Responsibility Report. This summarises Barrick’s global environmental, health, safety and social performance and is the vehicle for disclosure of Barrick’s social responsibility performance including issues identified by stakeholders. The report is a compilation of detailed responsibility reports submitted annually from each Barrick mine.

Bulayanhulu also submits an ‘Annual Environmental Monitoring Report’ to the Ministry of Energy and Minerals whereby issues relating to cyanide management can be raised.

In addition, Barrick Corporation has also compiled three information packages on cyanide and its management and placed them on their website (refer www.barrick.com: > Corporate Responsibility > Key topics > Cyanide Management). These are:

1. Barrick’s Responsible Use of Cyanide
2. International Cyanide Management Code
3. Facts About Cyanide
The website provides contact information whereby any questions the reader may have can be sent and provides additional cyanide information links including the International Cyanide Code Website (www.cyanidecode.org).

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

The operation is in full compliance with Standard of Practice 9.2

Systems are in place that allows Bulyanhulu to interact with stakeholders. Bulyanhulu has an active Community Development Department which interacts regularly and frequently with the local communities.

Bulyanhulu has developed a system whereby the local community is consulted and information is provided relating to the use of cyanide at the site. Presentations are delivered and leaflets are distributed to village representatives and local school pupils.

Opportunities for interaction and information are also provided via Barrick website (www.barrick.com > Contact Us) and via the feedback form of the Responsibility Report issued each year. Bulyanhulu staff also receives a weekly Barrick newsletter ('Weekly News') which provides the workforce with additional information which may include cyanide management practices and procedures. The 26th-31st May 2008 issue included an article with regards to Barrick's internal gap analysis ahead of the ICMI audit. The Bulyanhulu Communications Office was, at the time of the audit, in editing stages of the first external monthly publication. This publication is produced in collaboration with local communities, and the Community Development Department has identified that this will provide good opportunities to disseminate information about cyanide management.

The Annual Environmental Monitoring Report submitted to the Ministry of Energy and Minerals provides stakeholders with information with regards to environmental performance.

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

The operation is in full compliance with Standard of Practice 9.3

The operation has developed written descriptions of how their activities are conducted and how cyanide is managed via presentations and descriptive leaflets. Those which are delivered to the local community are available in both English and Swahili and distributed to village representatives and the local schools.

In addition, Barrick Corporation has also compiled three information packages on cyanide and its management and placed it on their website. Specific sections relating to written descriptions of how their activities are conducted and how cyanide is managed are incorporated are found within two of these information packages.

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1. Barrick’s Responsible Use of Cyanide:
   - Code Certification of Barrick Mines;
   - Independent Auditing and Verification;
   - Worker Safety;
   - Training;
   - Open Dialogue with the Community;
   - Manufacture;
   - Transportation;
   - Handling and Storage;
   - Emergency Response;
   - Cyanide and Gold Ore Processes; and
   - Decommissioning: Mine Closure and Cyanide.

2. Facts About Cyanide:
   - What is Cyanide?
   - Cyanide Usage;
   - Use in the Gold Mining Industry; and
   - Application.

All external visitors to the Bulyanhulu site must undergo a Site Induction which includes reference to their operations and how cyanide is managed on site. Bulyanhulu’s representatives deliver the induction presentations in the language appropriate to the audience and are able to speak English and Swahili. It is considered that a significant percentage of the local population is literate. For the surrounding communities at Bulyanhulu, it is considered appropriate that the presentations are delivered in Swahili.

The operation has the mechanisms to make information publicly available following a cyanide release or exposure incidents, but no such incidents have occurred to date. The Annual Environmental Monitoring Report submitted to the Ministry of Energy and Minerals provides stakeholders with information with regards to environmental performance. In addition, the Annual Environmental Monitoring Report would have to detail information regarding adverse effects to the environment or those exceeding legal limits if they were to occur as a result of Bulyanhulu’s operations. Bulyanhulu is under legal requirement to report such a scenario to the relevant Regulatory Authorities. Through the Ministry, the Annual Environmental Monitoring Report is publicly available.

Bulyanhulu mine site maintains the Barrick global RIMS database and is required to submit an annual report which feeds into the global Barrick Responsibility Report, published each year. The database includes specific monitoring data spreadsheets and would include any cyanide-related release or exposure incidents if they were to occur. The ‘Responsibility Report’ is distributed to all employees and made publicly available via the Barrick website (www.barrick.com). Bulyanhulu staff also receives a weekly Barrick newsletter (‘Weekly News’) which provide the opportunity to disseminate information regarding any cyanide release to employees. The Bulyanhulu Communications Office was,

Bulyanhulu
Name of Mine

Signature of Lead Auditor

11th February 2009
Date
SUMMARY AUDIT REPORT

at the time of the audit, in editing stages of the first external monthly publication. This publication is produced in collaboration with local communities, and the Community Development Department has identified that this will provide good opportunities to disseminate information about any cyanide issues.

Bulyanhulu implements the Environmental Communication Procedure that sets out guidelines and procedures for contacting the media. The Emergency Response Plan details the contacts involved in various response procedures for cyanide emergencies, and assigns the General Manager as the designated personnel to decide whether or not to involve the media.