INTERNATIONAL CYANIDE MANAGEMENT CODE
GOLD MINING OPERATION VERIFICATION AUDIT
PIERINA MINE, PERU

SUMMARY REPORT

Submitted to:

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and

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Submitted by:

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October 1, 2007 073-81689
Pierina Mine

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August 6-9, 2007

The Pierina Mine (Pierina) is located in the District of Jangas, Province of Huaraz, Department of Ancash in the Cordillera Negra of the Andes Mountains, in the north-central part of Peru, approximately 10 kilometers to the northwest of the city of Huaraz. Pierina is located at an elevation ranging from 3,800 to 4,100 meters.

The mine is accessed by road from the town of Jangas (16 kilometers), north of Huaraz. The mining facilities are located within the Rio Santa Basin and sub-basins, all of which drain to the east into the Rio Santa. Pierina is located across a deep valley from the Huascarán National Park, which is located in the Cordillera Blanca of the Andes and is a designated UNESCO Natural Heritage site. The mine has no direct or indirect impact on the Park. The climate in the project area is characterized by defined rainy and dry seasons. The rainy season extends from November to April when approximately 1 meter (m) of rainfall occurs.

Pierina is comprised of an open pit mine, a waste rock storage area, a valley-fill heap leaching facility, process and storm water pond system, acid rock drainage treatment plant, barren solution treatment plant using hydrogen peroxide, and a Merrill Crowe processing plant to recover gold, silver and mercury as a by-product. The open pit has been developed by conventional mining methods using trucks and loaders to extract gold-bearing ore. The waste is transported by trucks to a storage area designed specifically for this purpose. Ore is placed on the valley fill heap leach facility by truck. The valley fill heap leach facility is fully lined with geomembrane and employs a cross-valley dam to impound pregnant process solutions within the placed ore. Gold is recovered using conventional methods of heap leaching with dilute sodium cyanide solution. The auxiliary facilities required for the mining operation include administration offices and buildings, laboratories, warehouses, maintenance shops, emergency facilities, electric power distribution, water supply, roads, fuel and reagent storage tanks, drainage structures, and explosive storage areas. Once the ore has been extracted and processed, all the Pierina facilities, except for those facilities necessary for continuous environmental protection, will be closed and rehabilitated.

Pierina uses a Merrill Crowe process to recover the gold and silver from the pregnant leach solution. Pierina has two secure cyanide storage areas: 1) solid sodium cyanide box warehouse; and 2) the liquid mixing and storage area. Pierina has developed and implemented a number of operational procedures for the safe storage, handling and mixing of solid sodium cyanide briquettes into high-strength cyanide solution. The cyanide mixing and storage tanks are under a roof and within concrete
containments with spill collection sumps. The area has appropriate ventilation and hydrogen cyanide (HCN) monitoring, and high-level alarms to prevent overfilling. Cyanide is added to the pregnant solution line prior to the Merrill Crowe processing. The pH control is maintained by adding lime to the heap leach ore. Pierina stores and manages sodium cyanide in engineered tanks, pipelines and lined ponds constructed under appropriate quality control and quality assurance programs. Pierina employees are trained in cyanide hazards and first aid, first response, emergency response, and specific operational tasks. Pierina facilities are fenced to preclude wildlife and livestock from entering cyanide process areas. Pierina employs comprehensive inspection and preventive maintenance programs to assure that all cyanide equipment and facilities are functioning as designed and to monitor process solutions. Pierina has developed closure and reclamation plans and procedures to complete the appropriate management of cyanide solutions and solids, and the decontamination of cyanide pipelines and equipment.

Understanding and managing the process water balance is a critical function at Pierina because of the relatively high precipitation occurring in a well-defined rainy season. Pierina has developed and implemented a comprehensive process water balance program that includes monitoring and regular updates to track and plan water management activities. Pierina uses “raincoats” on the valley fill heap leach facility to minimize infiltration of rainfall on inactive portions of the heap. The raincoats are high density polyethylene (HDPE) geomembrane covers that convey clean precipitation to the storm water management system.

Pierina receives solid sodium cyanide from DuPont De Nemours & Co., Inc. (DuPont) delivered to the site in the original sea containers. The sodium cyanide supply chain is managed by DuPont, a signatory company to the Code and certified as compliant with the Code by third-party auditors. Pierina has an emergency response team that is trained to respond to onsite fires, chemical spills and worker exposures to cyanide. Pierina works with local community emergency responders to assure that adequate resources are available to address both offsite and onsite emergencies.

Audit Dates: August 6-9, 2007
Auditors: Scott Miller, Lead Auditor
Guillermo Aguirre, Gold Mining Technical Expert Auditor
Mark Montoya, Outside Gold Mining Technical Expert Auditor
in full compliance with

The operation is □ in substantial compliance with All Code Principles
□ not in compliance with

Audit Company: Golder Associates Inc.
Audit Team Leader: Scott H. Miller, CEA
E-mail: Scott_Miller@golder.com

Names and Signatures of Other Auditors:

Guillermo Aguirre

Guillermo Aguirre Signature of Auditor Oct. 1, 2007 Date
Name of Auditor

Mark A. Montoya, P.E.

Mark A. Montoya Signature of Auditor Oct. 1, 2007 Date
Name of Auditor

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.

Scott H. Miller

Mysa Y. Atencio, Notary Public, State of Colorado My commission expires 10/10/2010

Pierina Mine Signature Lead Auditor Oct. 1, 2007 Date
Name of Facility

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

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

X in full compliance with

The operation is □ in substantial compliance with Standard of Practice 1.1

□ not in compliance with

Basis for Audit Finding: Pierina has committed to only purchase cyanide from producers that are compliant with the International Cyanide Management Code (ICMC). Barrick Gold Corporation (Barrick) has a supply contract with DuPont De Nemours & Co., Inc. (DuPont) to provide sodium cyanide at Pierina. DuPont has been audited by third party independent auditors and certified as compliant under the ICMC.

2. TRANSPORTATION: Protect communities and the environment during cyanide transport.

Standard of Practice 2.1: Establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

X in full compliance with

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

□ not in compliance with

Basis for Audit Finding: Pierina has a sodium cyanide supply contract with DuPont, which specifies that the operation take ownership of the cyanide at the time of delivery. DuPont is by contract solely responsible for the production and transport of sodium cyanide to the delivery point at Pierina. DuPont is a signatory producer to the ICMC and subcontracts the supply chain transportation from Memphis, Tennessee to the mine. The supply chain is comprised of truck and rail transportation to the Port of New Orleans, Louisiana. From New Orleans, the sodium cyanide is shipped to one of two ports in Peru: Calleo or Salaverry. An agent representing DuPont in Peru manages the logistics for interim storage and truck transportation to the mine. None of the supply chain subcontractors are signatory to the ICMC; however all subcontractors have been subject of a formal audit or a less formal due diligence by an ICMI-qualified auditor. According to these third-party audit and due diligence reports the transportation subcontractors are compliant or at least consistent with the ICMC with clear lines of responsibility for safety, security, release prevention, training, and emergency response.
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

Basis for Audit Finding: DuPont is by contract solely responsible for the production and transport of cyanide to the delivery point at Pierina. The supply chain is comprised of truck and rail transportation to the Port of New Orleans, Louisiana. DuPont loads intermediate bulk container (IBC) plywood boxes into sea cargo containers. The Intermodal Cartage Co. Inc. (ICCI) trucking company picks up these sea containers for transportation to a rail yard for transportation by the Canadian National Railway (CN). ICCI, while not signatory nor certified by ICMI as compliant with the ICMC, has undergone a third-party audit by an ICMI approved auditor and has been described as fully compliant. CN is also not signatory, nor certified by ICMI, but an ICMI certified third-party auditor indicates that DuPont has done appropriate due diligence associated with the CN transportation segment to ensure that the cyanide is transported in a “manner consistent with the requirements of the Cyanide Code Transportation Protocol”. CN transports the sea containers to the Port of New Orleans. From New Orleans, the sodium cyanide is shipped to one of two ports in Peru: Calleo or Salaverry. DuPont uses the Mediterranean Shipping Company S.A. (MSC) for this segment of the supply chain. MSC is also not signatory, nor certified by ICMI, but an ICMI certified third-party auditor indicates that DuPont has done appropriate due diligence associated with the CN transportation segment to ensure that the cyanide is transported in a “manner consistent with the requirements of the Cyanide Code Transportation Protocol”. DuPont uses a Peruvian agent, DuQuimica S.A. to manage the logistics for interim storage and truck transportation to the mine. DuPont and DuQuimica use Transportes Rodrigo Carranza S.A.C. (TRC), a truck transportation company, to provide interim storage and transportation from the Ports of Calleo or Salaverry either directly to the mine or to interim storage prior to transportation of the sea containers to the mine. TRC, while not signatory nor certified by ICMI as compliant with the ICMC, has undergone a third-party audit by an ICMI approved auditor and has been described as fully compliant.

DuPont is a signatory producer to the ICMC and has conducted audits and due diligence by qualified third-party independent auditors on the transportation security, safety, training and emergency response aspects. None of the supply chain subcontractors are signatory to the ICMC; however all subcontractors have been subject of a formal audit or a less formal due diligence by an ICMI qualified auditor. According to these third-party audit and due diligence reports the transportation subcontractors are compliant or at least consistent with the ICMC with clear lines of responsibility for safety, security, release prevention, training, and emergency response.

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.

☐ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

Standard of Practice 3.1

Basis for Audit Finding: Pierina has a solid sodium cyanide warehouse where one-ton “bag in box” containers are stored. The solid sodium cyanide briquettes are mixed with barren solution in cyanide mixing and storage tanks within the Merrill Crowe Plant building. The design and construction of the cyanide warehouse, mixing and storage facilities have been completed appropriately as documented in final design and construction drawings prepared by qualified Professional Engineers. The cyanide warehouse, mixing and storage facility quality control and assurance procedures and documentation include construction level drawings with detailed specifications noting foundation compaction and concrete reinforcement, and piping and tankage materials. The liquid cyanide storage tanks each have a high-level alarm and level indicator. The solid cyanide warehouse storage facility has adequate ventilation, is located within a secure and roof-covered building. The cyanide mixing and storage area is also a secure locked room within the larger Merrill Crowe plant building with adequate fan driven ventilation. During unloading at both sites, traffic and access is controlled by the operators with warning cones. The cyanide warehouse and the mixing and storage areas are within concrete containment to contain releases and precipitation that may contact cyanide. As also covered under Standard of Practice 4.7, the mixing and liquid storage containment area is constructed for spill prevention and the containments sized to contain 110% of largest tank volume. Both the warehouse and the mixing / storage area are locked and control room personnel must provide permission for entry.

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

☐ in substantial compliance with

☐ not in compliance with

Basis for Audit Finding: Pierina has developed Standard Operating Procedures (SOPs) to prevent exposure and releases of cyanide during unloading from the sea cargo containers and stacking, mixing and storage, and processing. The SOPs consist of “PROCEDIMIENTO Transporte, Manipulacion, Descarga, Almacenamiento y Despacho de Cianuro de Sodio (Procedure – Transportation, Handling, Unloading, Storage and Control of Sodium Cyanide)” and Preparación de Cianuro en Planta Merrill Crowe (Preparation of cyanide for the Merrill Crowe Plant)” that covers the responsibilities for the transportation on the site and the site handling and storage. The procedures require that cyanide boxes be stacked no more than three high during unloading of trucks or within the warehouse. The procedures also require that all cyanide mixing be completed by qualified operators under the observation by another qualified operator. Personnel protection equipment requirements during cyanide box movement or cyanide mixing include a Tyvek® suit,
hardhat, full-face dust mask, rubber boots, and gloves. Pierina uses inspection forms and a computer database preventative maintenance program that identifies and tracks all maintenance activities at the unloading and the storage warehouse and tank areas. As also covered under Standard of Practice 4.1, Pierina has an inspection program that includes daily shift inspections. Findings are entered into work orders when required. Contingency planning documents have been developed and implemented to address power failure, and extreme rainfall management.

4. OPERATIONS: Manage cyanide process solutions and waste streams to protect human health and the environment.

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

☒ in full compliance with

☐ in substantial compliance with Standard of Practice 4.1

☐ not in compliance with

Basis for Audit Finding: Pierina has developed and implemented operator task-specific SOPs that address protection of human health and the environment for the operation of the Merrill Crowe circuit. In addition, Pierina has Operating Plans and task-specific SOPs that describe all aspects of the heap leach, water balance and water treatment operations. These SOPs and operating plans were found to have adequate contingency planning, routine inspections, and a preventive maintenance program. SOPs address all the cyanide management tasks such as unloading and storage of cyanide boxes, mixing of liquid cyanide, cleaning and disposal of cyanide bags and boxes, management of the ore placement and heap leach operations, and operation of the cyanide destruct circuit. Contingency planning documents have been developed and implemented to support the process solution and pond management, control of solution inventory during power failure, and extreme rainfall events. Pierina has backup generators to ensure that essential process equipment and systems continue to operate during power failures and conducts inspections that include regular testing of the backup power generator. Pierina uses a computer based preventive maintenance system, Oracle®, to identify, issue work orders and document all preventive maintenance activities.

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

☒ in full compliance with

☐ in substantial compliance with Standard of Practice 4.2

☐ not in compliance with
Basis for Audit Finding: Pierina is a heap leach operation and does not generate or dispose mill tailings.

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

☐ in full compliance with
☐ in substantial compliance with Standard of Practice 4.3
☐ not in compliance with

Basis for Audit Finding: Pierina has developed a comprehensive water balance that addresses the uncertainty and variability of climatic data to prevent overtopping of the valley-fill heap leach impoundment and process ponds. Process facility inspection procedures and data collection programs have been implemented to update and calibrate the water balance model every 15 days during the rainy season. Pierina has two weather stations and measures and records precipitation data for incorporation into the model and operational planning. Daily shift inspections include the in-heap storage and pond levels and available freeboard monitoring that is incorporated into the water balance model and operational planning to prevent potential overtopping.

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
☐ in substantial compliance with Standard of Practice 4.4
☐ not in compliance with

Basis for Audit Finding: Pierina has two heap leach process ponds and one conveyance ditch containing process solution with WAD cyanide concentrations at or above 50 mg/L. All three of these solution areas are netted to protect bird and wildlife exposure. Pierina’s other wildlife protection facilities include a perimeter fence around the entire heap leach and processing area. During periods of high rainfall, ponding on the surface of the heap leach facility is controlled by the placement of netting frames, reduction of solution application or by shutting down solution application in the ponding areas. Excess barren process solution can be treated at the cyanide destruction plant and discharged.

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

☐ in full compliance with
☐ in substantial compliance with Standard of Practice 4.5
☐ not in compliance with
Basis for Audit Finding: Pierina is designed and operated for zero-discharge of process fluids unless treated for discharge under Peruvian regulations. Pierina has discharged treated process water only twice during the operations since 1999 in response to high rainfall conditions. Review of the operation performance history, design criteria and the project water balance indicate that facilities operation is consistent with the zero-discharge requirements. Monitoring information indicates there is no impact to groundwater or surface water quality from the heap leach operations and processing facilities. Spill prevention and emergency response plans have been developed to comply with the zero-discharge operating requirements.

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 ☐ not in compliance with

Standard of Practice 4.6

Basis for Audit Finding: The Pierina heap leach and processing facilities are designed and operated to protect groundwater resources. The project cyanide facilities include a number of seepage control technologies, including: double geomembrane liner systems below the in-heap solution storage and process ponds with leak detection and leak collection systems; composite liner under the heap leach facility outside the impoundment area; and concrete containments in process areas to protect the beneficial water use. Pierina completes weekly monitoring of the leak detection systems and quarterly water quality sampling and analysis of a groundwater monitoring network.

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

☑ in full compliance with

The operation is ☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 4.7

Basis for Audit Finding: The Pierina operation has secondary curbed or walled concrete containments for all cyanide storage and processing areas. Other secondary containments include geomembrane-lined channels for process solution pipelines. The secondary containments in the cyanide processing areas have been designed to contain at least 110% of the largest tank volume and the 100-year, 24-hour storm event. Secondary containments in the cyanide mixing room and process areas have automated pumping systems for collection and management of process leakage. SOPs have been developed to address management of spill response and clean-up within the containments. Review of the operation indicates that all tanks, piping and containments are constructed of materials appropriate for handling high pH cyanide solutions.

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

Basis for Audit Finding: The project construction of the heap leach and process facilities has been verified by qualified engineering companies and includes detailed quality control / quality assurance (QC/QA) data collection and documentation. The QC/QA documents indicate that the construction was completed according to engineering standards and specifications. Pierina has committed to retain all QC/QA information in the Environmental or Process Departments.

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

☒ in full compliance with

The operation is ☐ in substantial compliance with Standard of Practice 4.9
☐ not in compliance with

Basis for Audit Finding: Pierina has environmental monitoring programs developed to evaluate the performance of the cyanide management systems on wildlife, and surface and groundwater quality. The environmental programs have been prepared, approved and implemented by qualified professionals and include all appropriate sampling and analysis documentation. Review of field sampling forms, chain of custody and quality assurance data was completed. Pierina monitors and reports water quality to the Peruvian Ministry of Energy and Mines for 11 groundwater monitoring wells on a quarterly basis and two surface water stations on a monthly basis. In addition, Pierina monitors water quality in 14 potable community water supply channels on a quarterly basis.

5. DECOMMISSIONING: Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities.

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

☒ in full compliance with

The operation is ☐ in substantial compliance with Standard of Practice 5.1
☐ not in compliance with

Basis for Audit Finding: Pierina has developed written closure plans and cost estimates that address
decommissioning of all cyanide equipment, pipelines and facilities including management of heap leach draindown solution. Pierina has developed an implementation schedule that considers the treatment and evaporation of all process solution, detoxification and rinsing of equipment, and removal and decommissioning of ponds and other containments. Pierina is required to update the closure plan and estimated costs on an annual basis per Barrick’s internal requirements.

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

- **The operation is** in full compliance with
- **in substantial compliance with**
- **not in compliance with**

**Basis for Audit Finding:** Pierina has developed cost estimates with sufficient detail for the full closure of the cyanide-related facilities and activities. Barrick is providing a corporate self guarantee to cover the full cost of cyanide facility decommissioning at Pierina. In support of the corporate self guarantee, Pierina provided audited financial statements for Minera Barrick Misquichilca S.A. and a report from qualified financial auditors that evaluated Barrick audited financial records for their ability to meet financial tests for financial self guarantee for its cyanide-related decommissioning activities using 40 CFR 264.143(f), 30 CRF 800.23, and 10 CFR 30, and in accordance with attestation standards established by the American Institute of Certified Public Accountants.

**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.

- **The operation is** in full compliance with
- **in substantial compliance with**
- **not in compliance with**

**Basis for Audit Finding:** Pierina has identified potential cyanide exposure scenarios and developed procedures and plans to eliminate, reduce and control exposure. Pierina operating plans and individual task specific SOPs provide details for safe operation of cyanide equipment, personal protective equipment requirements and inspection requirements. Pierina has successfully implemented a program where job safety assessments are completed and documented prior to every cyanide related task. Pierina has weekly Process Group Meetings to provide information and training to employees as well as solicit input from employees on worker safety issues. Pierina has a Change Management procedure (Identificacion De Aspectos Ambientales Significativos) that requires any proposed changes in process operations and cyanide management be formally evaluated with the area supervisors prior to implementation. All changes are communicated to the workforce and training requirements updated.

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

X in full compliance with

The operation is □ in substantial compliance with Standard of Practice 6.2

□ not in compliance with

**Basis for Audit Finding:** Pierina has developed SOPs for the cyanide usage areas designed to prevent the generation of hydrogen cyanide (HCN) gas and has located key cyanide process facilities outside or in well-ventilated buildings with appropriate HCN monitors. Pierina has defined process equipment and standard operational plans for control of cyanide, caustic, pH, and Hydrogen Peroxide. There are HCN sensors and alarms located at the cyanide mixing and storage tanks. Pierina has developed extensive HCN monitoring information for all operator tasks using mobile HCN detectors. All operators are required to carry mobile HCN monitors once per month with the data being evaluated and compiled to monitor work practices and identify potential areas of concern. Pierina also has mobile HCN detectors for use in confined space entry. Pierina has established requirements for personal protective equipment at all relevant process areas and for all cyanide-related activities. Pierina has implemented monitoring equipment maintenance and calibration programs. Pierina has installed safety showers with eyewash stations and non-acidic fire extinguishers at relevant cyanide usage areas. Pierina has developed an Emergency Response Plan and implemented the Plan through training and installation of emergency response equipment. Pierina has safety equipment including safety showers with eyewash stations, first aid equipment (amyl nitrite, medical oxygen, and resuscitator), an emergency response vehicle, and employee first aid training. Pierina has an Emergency Response Team for all shifts. The team is trained to provide first aid for cyanide exposure including oxygen and amyl nitrite administration. Pierina has a program to store and replace cyanide exposure antidotes in accordance with the manufacturer’s requirements at several locations on the property. In the event of a worker exposure, Pierina will provide onsite first aid. Pierina has an onsite medical facility that is always staffed by at least one physician. The onsite medical physician will provide intravenous cyanide antidote for treatment of the patient if required. Pierina has made formal arrangements with the local Huaraz hospital and clinic to treat cyanide

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

X in full compliance with

The operation is □ in substantial compliance with Standard of Practice 6.3

□ not in compliance with

**Basis for Audit Finding:** Pierina has developed an Emergency Response Plan and implemented the Plan through training and installation of emergency response equipment. Pierina has safety equipment including safety showers with eyewash stations, first aid equipment (amyl nitrite, medical oxygen, and resuscitator), an emergency response vehicle, and employee first aid training. Pierina has an Emergency Response Team for all shifts. The team is trained to provide first aid for cyanide exposure including oxygen and amyl nitrite administration. Pierina has a program to store and replace cyanide exposure antidotes in accordance with the manufacturer’s requirements at several locations on the property. In the event of a worker exposure, Pierina will provide onsite first aid. Pierina has an onsite medical facility that is always staffed by at least one physician. The onsite medical physician will provide intravenous cyanide antidote for treatment of the patient if required. Pierina has made formal arrangements with the local Huaraz hospital and clinic to treat cyanide.
exposed workers if required. Pierina has conducted cyanide exposure drills, and tests the relevant emergency procedures at least once per year.

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

Basis for Audit Finding: Pierina has developed and implemented an Emergency Response Plan (ERP) and procedures to respond to cyanide related emergencies and emergency control management that address potential cyanide releases including containment plans and analysis of potential scenarios. The emergency response plans will be evaluated and updated at least annually.

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

Basis for Audit Finding: The ERP has been designed to be implemented entirely by trained, onsite personnel. Pierina has onsite fire fighting capabilities, a fully equipped emergency response vehicle, a hazmat vehicle and trained First Responders, firefighters and hazmat personnel. Pierina emergency response teams are trained to respond to all potential cyanide incidents at the site. Pierina’s Emergency Response Plan has been developed with the involvement and input of its workforce. Pierina’s workforce has the ability to participate in the emergency response planning process through weekly safety meetings and mock drills. Pierina involves site personnel in mock drills and revises the emergency response procedures as needed.

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

Basis for Audit Finding: Pierina has committed, in the ERP and training SOPs, the necessary
emergency response equipment and first aid to manage all cyanide incidents at the operation and to coordinate transportation to the nearest medical facilities. Pierina has certified First Responders, firefighters and hazmat personnel. Pierina’s ERP defines the primary and alternative response coordinators for the Incident Command Team (ICT). The ICT is commanded by an Incident Commander Leader, who is trained for emergencies in that department. The ERP has a list of potential team members and Commanders in the event that the Department Supervisor is not available. The Incident Commander and ICT are responsible for the overall management of the emergency (human resources, equipment, material and supplies, communication, production and decisions) at the site. The ERP contains a list of onsite emergency responders, the ambulance service and the local medical providers. Pierina requires training and certification for First Responders, including administering first aid to personnel exposed to cyanide, administering amyl nitrite, locations of cyanide antidote kits, hazard awareness associated with sodium cyanide and HCN gas, and victim and rescuer decontamination procedures. The ERP includes radio channel, office and 24-hour cell phone telephone numbers for the Emergency Response Team and Commanders. The ERP has a section describing Pierina Personnel Duties and Responsibilities for the Incident Commander and Manager Succession. The section details the responsibilities of the Incident Commander and the Safety and Environmental Departments. The ERP contains a list of emergency response equipment for the onsite transportation route. All emergency equipment and supplies are inspected monthly by the Safety Department.

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 ☐ not in compliance with

Basis for Audit Finding: Pierina’s Emergency Response Plan and related facility plans detail the procedures (including current contact telephone numbers) for internal and external emergency notification and reporting.

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.

☑ in full compliance with

The operation is ☐ in substantial compliance with ☐ not in compliance with

Basis for Audit Finding: Pierina has prepared cyanide response and remediation plans that address appropriate uses and situations for cyanide treatment chemicals. Pierina has developed plans to sample and monitor soils and groundwater in the event of a cyanide spill. All contaminated soils are to be excavated, loaded, hauled and disposed of the in the heap leach facility. Liquid spills are to be contained by perimeter berms and pumped into containers for return to the process facilities. Sodium
hypochlorite is only to be used in cases where the solution is fully contained on site and will not encounter aquatic life.

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

- [ ] in full compliance with
- [ ] in substantial compliance with _Standard of Practice 7.6_
- [ ] not in compliance with

**Basis for Audit Finding:** Pierina has committed to annual evaluation and update of the Emergency Response Plan, if needed based on review of the incidents and drills. Additionally, at least once per year Pierina will conduct hazmat emergency response drills. Pierina has conducted two mock drills each year since 2005.

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
- [ ] in substantial compliance with _Standard of Practice 8.1_
- [ ] not in compliance with

**Basis for Audit Finding:** Pierina provides training to all employees, with the potential to be exposed to cyanide, on the hazards of cyanide and provides annual refresher training. Pierina retains all cyanide training records for employees. The cyanide related performance assessment tests are also retained in employee permanent records.

_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
- [ ] in substantial compliance with _Standard of Practice 8.2_
- [ ] not in compliance with

**Basis for Audit Finding:** Pierina has prepared and implemented SOPs for cyanide management tasks that detail health and safety procedures for all aspects of cyanide unloading, handling, mixing and storage, heap leach operations, Merrill Crowe operations, and cyanide destruction systems.
Pierina has an extensive training program that includes New Hire, Work Specific, and Specific Procedure training. New hire training is given to all employees and covers cyanide hazard recognition, health effects, safe practices, basic PPE, general emergency procedures in case of spills or inhalation risk, and communication requirements. The work specific training is given to employees and contractors that have the potential to be exposed to cyanide. The work specific training includes more detail on cyanide safety, first aid and antidote use, PPE requirements and specific work area cyanide management procedures. The procedure training is task specific training provided by employee supervisors covering cyanide handling and mixing, heap leach operations, Merrill Crowe plant operation, and cyanide destruction system operation. All task-specific training is conducted by individuals that have undergone a “Train the Trainer” course, have at least two years of working in the process area, and degrees in either chemistry or engineering. Pierina’s training program identifies the specific cyanide management elements that each employee must be trained in to perform that specific job properly. All Pierina employees, with the potential to be exposed to cyanide, receive annual refresher training that includes cyanide safety. Pierina employees working in specific cyanide management tasks receive annual refresher training for those tasks. Pierina requires written tests to evaluate the effectiveness of cyanide training and those training records are retained throughout an individual's employment, documenting the training received. The records include the name of the employee and the trainer, the date of training; the topics covered, and test results demonstrating an understanding of the training materials.

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

- in full compliance with

The operation is

- in substantial compliance with Standard of Practice 8.3
- not in compliance with

*Basis for Audit Finding:* Pierina has provided training in response to cyanide releases for all production and maintenance personnel and developed a First Responder Team. Pierina has developed procedures and plans for cyanide-related tasks. The Emergency Response Plan, the Operation Pre-Plans and procedures define the response required by operators if a person is exposed to cyanide or if there is an environmental release. All Pierina employees, with the potential to be exposed to cyanide, receive annual refresher training that includes cyanide safety, cyanide hazards recognition, first aid, and incident response. All training records by individual employee are retained.

Pierina has an Emergency Response Team comprised of full-time employees trained in first aid and use of resuscitation equipment.

Pierina, over the last three years, has conducted two mock cyanide emergency response drills per year that include both human exposure and environmental release. The drills are analyzed and improvements made to training procedures and the emergency response plan as required by the drill results. Pierina is committed to conduct at least one mock drill per year.

*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
- ☐ not in compliance with

**Standard of Practice 9.1**

**Basis for Audit Finding:** Pierina has several programs to provide stakeholders the opportunity to communicate concerns. These programs include public mine visits and tours, publication of a monthly magazine, preparation of informational pamphlets, organization of university based workshops on mining issues, development of a Road Safety and Transport community relations workshop and development of Complaints and Questions Program. Mine visits include a tour of the crushers, mining area, process plant, dikes and leach areas, and an overview from the general lookout. Pierina provides the following pamphlets during mine visits, workshops and local fairs:

- Como Producimos Oro 1999 (How we produce gold)
- Así manejamos el CN en Pierina (dos versiones) 2003 (How we handle cyanide in Pierina, 2 versions)
- Como transportamos el Cianuro 2007 (How we transport cyanide)

The pamphlets are easy to follow and are focused to teach safe practices and information regarding cyanide and gold production at the mine. These pamphlets are distributed at site visits and any other event where mine personnel participate. Pierina also promotes workshops at local universities, schools and institutes where cyanide and other mining related subjects are discussed.

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

- ☒ in full compliance with

**The operation is**
- ☐ in substantial compliance with
- ☐ not in compliance with

**Standard of Practice 9.2**

**Basis for Audit Finding:** Pierina provides the opportunity to communicate issues of concern with the public through contact with the local stakeholders during presentation of workshops. In addition, Pierina has developed an Open Door Policy that allows community members to voice complaints and concerns related to the mine operation and transportation of supplies.
Standard of Practice 9.3:  
Make appropriate operational and environmental information regarding cyanide available to stakeholders.

- in full compliance with

Basis for Audit Finding: Pierina is required by Peruvian regulations to provide operational and environmental information related to cyanide exposures and emergencies, spills, and offsite releases of cyanide on a quarterly basis. These quarterly reports are available on request from the Peruvian Ministry of Energy and Mines. The Ministry also makes information available on the mines on their website (http://www.minem.gob.pe/mineria/pub_informe_fiscaliza.asp). Barrick provides operational and environmental information in its annual corporate safety and health, environment and social responsibility reports, and on its website (www.Barrick.com).