INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Gold Mining Operations

Summary Audit Report Form

For The

International Cyanide Management Code

GUALCAMAYO - MINAS ARGENTINAS

June 27 /July 01, 2011

www.cyanidecode.org

October 2009

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SUMMARY AUDIT REPORT
FOR GOLD MINING OPERATIONS

Instructions

1. The basis for the finding and/or statement of deficiencies for each Standard of Practice should be summarized in this Summary Audit Report. This should be done in a few sentences or a paragraph.

2. The name of the mine operation, lead auditor signature and date of the audit must be inserted on the bottom of each page of this Summary Audit Report. The lead auditor’s signature at the bottom of the attestation on page 3 must be certified by notarization or equivalent.

3. An operation that is in substantial compliance must submit a Corrective Action Plan with the Summary Audit Report.

4. The Summary Audit Report and Corrective Action Plan, if appropriate, with all required signatures must be submitted in hard copy to:

   International Cyanide Management Institute (ICMI)
   1200 G Street, NW, Suite 800
   Washington, DC  20005, USA

5. The submittal must be accompanied with 1) a letter from the owner or authorized representative which grants the ICMI permission to post the Summary Audit Report on the Code Website, and 2) a completed Auditor Credentials Form. The letter and lead auditor’s signature on the Auditor Credentials Form must be certified by notarization or equivalent.

6. Action will not be taken on certification based on the Summary Audit Report until the application form for a Code signatory and the required fees are received by ICMI from the applicable gold mining company.

7. The description of the operations should include sufficient information to describe the scope and complexity of the gold mining operation and gold recovery process.
Name of Mine: Gualcamayo  
Name of Mine Owner: Yamana Gold Inc.  
Name of Mine Operator: Minas Argentinas S.A.  
Name of Responsible Manager: Edgar Rolando López – General Manager.  
Address: Gral. Paz 558 Oeste CP(J5400ANE)  
State/Province: San Juan  
Country: Argentina  
Telephone: 54-264-4299801  
Fax: 54-264-4299799  
E-Mail: rolando.lopez@yamana.com

Location and Description of Operation

The Gualcamayo Mine is a 100% Yamana Gold Inc. company ownership, located at 230 km northern San Juan Province, Argentina at 110 km from San José de Jáchal. Access to the operation is from the city of San Juan through national road n° 40. The camp mine is located at 1500 m above sea level, and the highest altitude of the mine operation is at 2600 m above sea level.

The area's climate is arid, with rainfall below 180 mm per year. Rains occur between November and March. Precipitation events are typical convective storms, localized and relatively high intensity.

Gualcamayo consists of three known main mineral deposits, the main QDD open pit deposit, the Amelia Ines and Magdalena (AIM) satellite open pit deposits, and the future QDD Lower West underground zone. Mineralized zones consist mainly of limestone.

The exploitation has been developed by conventional open pit mining methods: drilling, blasting and transport, using trucks and loaders to extract gold-bearing ore. The waste is transported by trucks to the QDD waste dump storage area. Gualcamayo has mined over 95 million tons of material from the QDD pit, with an actual average production rate of about 135,000 tons per day.

The processing of the ore consists of the following main stages: primary and secondary crushing, a heap leach with cyanide solution, and the treatment of leachate in an adsorption-desorption-recovery (ADR) plant. Then, from the pregnant solution, cathode precipitate is obtained by electro-winning, which is melting obtaining Dore Metal bars as final product.

The process plant is designed to operate 360 days a year. The nominal daily processing rate is 25,000 tons, with an annual processing rate of 9 million tons, and annual production of 170,000 gold ounces.
SUMMARY AUDIT REPORT

The ore treatment process consists of:

- Three crushing stage: primary, secondary and tertiary crushing.
- Transportation and stacking of ore.
- Application and recovery of solution (leaching).
- Absorption of gold on activated carbon.
- Desorption of gold from activated carbon (Elution).
- Electro-winning.
- Smelting.

The ore from the mine (ROM) is initially crushed in the primary crushing plant, then it is crushed in the secondary and tertiary crushing circuit to reduce its size. The final crushed ore is transported through conveyor belts to the lixiviation pad where it is stacked in panels. Lime is added to ensure the alkalinity of the ore during the leaching process and prevent the formation of hydrogen cyanide (HCN).

In the leach pad, an alkaline cyanide solution is applied to the crushed ore, to leach the gold and separate it as the solution passes through the pile. The pregnant solution (PLS) is collected in a network of pipes to a central point, where it is conducted by gravity to the ADR plant to recover the gold. The leach pad facility is fully lined with geo-membrane and does not store any pregnant process solution. Additionally, there is a PLS (Pregnant Leach Solution) facility that is fully lined with two geo-membranes. After the gold is recovered, the barren solution is returned to the leach pad by pumps located in the ADR plant.

The auxiliary facilities required for the mining operation include administration offices and camp buildings, laboratories, warehouse, 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 facilities, except those necessary for continuous environmental protection, will be closed and rehabilitated.

Gualcamayo has implemented a comprehensive integrated management system of safety, occupational health, environment and community relations (SYG). Recently, the company has certified its Environmental Management System according to ISO 14001/2004 standard. The Operation has initiated the implementation process for OHSAS 18001:2007 Certification. The strategic plan is to achieve the Certification during November, 2011.

The mine is currently developing access for future underground exploitation, which is expected to begin production in the second half of 2013.
SUMMARY AUDIT REPORT

Auditor’s Finding

This operation is

- X in full compliance
- □ in substantial compliance *(see below)
- □ not in compliance

with the International Cyanide Management Code.

Audit Company: JULIO MONTEIRO AUDITORES DA QUALIDADE LTDA.
Audit Team Leader: JÚLIO C. M. MONTEIRO
E-mail: jmaq@ig.com.br
Names and Signatures of Other Auditors: ------------------
Date(s) of Audit: June, 27 ~ July 01, 2011

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.

__________________________________

Júlio César Macedo Monteiro

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Júlio C. M. Monteiro
Lead Auditor
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

**Summarize the basis for this Finding/Deficiencies Identified:**

Yamana Supply Agreement between EI DUPONT DE NEMOURS & CO. INC and MIMAS ARGENTINAS S.A. signed by Hernán Vera, President of Minas Argentinas S.A. and also signed by Dupont Argentina Representative require that the Cyanide must be produced at a certified facility. Dupont is certified by the ICMI for Sodium Cyanide Production Protocol. See [www.Cyanidecode.org](http://www.Cyanidecode.org).

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

*Standard of Practice 2.1:* Establish clear lines of responsibility for safety, security, and 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

**Summarize the basis for this Finding/Deficiencies Identified:**

According with article six of the “Yamana Supply Agreement” between EI DUPONT DE NEMOURS & CO. INC, and YAMANA GOLD INC. - MINAS ARGENTINAS S.A. specifies that the Seller is fully responsible for monitoring and ensuring compliance with the requirements of Standard of Practice 2.1 of the International Cyanide Management Code.

Dupont is responsible for the Chain of Custody since Memphis Rail Ramp to Buenos Aires Port and from Buenos Aires Port to Gualcamayo Mine trough “Transportes Cruz del Sur” also Certified under the ICMI.
SUMMARY AUDIT REPORT

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

X in full compliance with

The operation is □ in substantial compliance with Standard of Practice 2.2
□ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The Operation is in full compliance with Standard of Practice 2.2. As previously mentioned, the Sodium Cyanide is transport into the Operation by an ICMI Certified transporter. DuPont’s ocean shipping carrier, MSC, then trans-load the containers onto its ocean vessels for transport to Ocean ports in Argentina. MSC (Mediterranean Shipping Company) has completed a Due Diligence audit by an ICMI approved auditor and found to be in Full Compliance with the Cyanide Code. This is covered by DuPont’s Signatory Supply Chain status and the report can be viewed on the ICMI website under DuPont’s Ocean Supply chain segment. Transportes Cruz del Sur is the local transporter in Argentina that is hired by DuPont Argentina to pick up the containers at the port and haul them to the mine. DuPont Argentina and Transportes Cruz del Sur were both audited by an ICMI approved auditor and found to be in Full Compliance with the Cyanide Code. Transportes Cruz del Sur is a Signatory to the Cyanide code, so both of these reports are available on the Cyanide Code website. This verifies that the Supply Chain from Manufacture to Mina Gualcamayo – Argentina is in Full compliance with the Cyanide Code.


3. HANDLING AND STORAGE: Protect workers and the environment during cyanide handling and storage.

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

X in full compliance with

The operation is □ in substantial compliance with Standard of Practice 3.1
□ not in compliance with
The facilities were designed according with solid international engineering practices. The Environmental Impact Study of Gualcamayo was approved by the Mining Authorities in August 2007. Additionally, during construction, the company implemented a QA/QC department. All QA/QC records are kept in a file area near the ADR plant. The Auditor could verify evidence of such controls. The solid Cyanide storage is located far away from human settlements, communities and surface waters. However, the Operation carry out hydrogen Cyanide monitoring with both, fixed and portable detectors equipped with visual and audible alarms, to verify the hydrogen Cyanide gas concentration and reduce risks to workers. Operation has gauges that allow monitoring the cyanide solution level of preparation and storage tanks, both locally and remotely (from control room). It also has high level alarms and high level with an interlock to the pumps that drive the cyanide solution. All the Cyanide storage and process tanks are located on a concrete surface that was constructed following the design criteria. It was verified that the Operation has developed a plan for placement of an additional coating of poly-urea on the surface of concrete, as an additional measure to prevent infiltration. The plan is under development and the auditor could verify that a covering of 35% of the ADR plant has been completed. The Operation has a very well designed and constructed sodium Cyanide warehouse area, with adequate ventilation. Under a roof and walls, locked doors, and with no public access. However, the Operation carry out Hydrogen Cyanide monitoring with fixed and portable detectors equipped with visual and audible alarms, to verify the hydrogen Cyanide gas concentration is within the safety concentration range before any access to the building. This warehouse is used only for the storage of sodium Cyanide boxes, and is far away from other incompatible substances.

Standard of Practice 3.2: Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

X in full compliance with

The operation is

☐ in substantial compliance with Standard of Practice 3.2
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The Operation has implemented a Standard Operating Procedure to prevent exposures and releases for cyanide during offloading, storage, and use. All empty Cyanide packaging are decontaminated and then are disassembled and placed in containers in a restricted access area. Boxes, cartons, and decontaminated bags, are placed in containers in an area of temporary hazardous waste storage, with restricted access within the area of the plant. Containers are removed by an authorized company to treat hazardous waste that transports them to the city of San Juan to a legally authorized treatment plant of hazardous waste. During construction, the company implemented a QA/QC department.
All QA/QC records are kept in a file area near the ADR Plant. The operation of all valves and couplings for mixing solid is included in the Standard Operating Procedure. The maximum allowable height for Cyanide stacking is 3 boxes (verified at Cyanide storage area) as per DuPont’s advice. The Personal Protective Equipment was appropriate for the tasks. The preparation is ever done by two operators, additionally the Operation has a CCTV (Close Circuit Television) being monitoring from the Control Room.

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

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

X in full compliance with

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

Standard of Practice 4.1

Summarize the basis for this Finding/Deficiencies Identified:

The Operation has implemented a change management procedure within its Safety Management System. The types of activities subject to this procedure are changes in: Process, Systems, Equipments, Procedures, Lay-Out, Facilities, Materials, Organizational Structure, and Others. The Operation has in place a preventive maintenance program and it is documented. The Operation has development Standard Operating Procedures for unloading, mixing and storage facilities, heap leach operations, and disposal. The Operation was demonstrated that the process performs scheduled inspections every fortnight. Inspected include: tanks, pipes, valves, culverts, sensors, emergency showers, hydrocyanic gas sensors, ponds and leach pad areas. These inspections are sufficient to assure and document that cyanide facilities are functioning with design parameters. The inspection documents include the name of Inspector, date and evidences observed. The Operation has implemented a back-up emergency power generating equipment that is maintained and tested in a regular basis. This emergency power system, is connected to the critical equipment identified that need to be running for preventing any release to the environment in case of a prolonged power outage. The facilities were designed according with solid international engineering practices.

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

The operation is □ in substantial compliance with □ not in compliance with X Not applicable

□ Standard of Practice 4.2
SUMMARY AUDIT REPORT

Summarize the basis for this Finding/Deficiencies Identified:
Not applicable. This standard applies solely to milling operations.

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

The operation is

- [x] in full compliance with
- [] in substantial compliance with
- [] not in compliance with

**Standard of Practice 4.3**

The operation is

- [x] in full compliance with
- [] in substantial compliance with
- [] not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The Operation has a probabilistic water balance point 4.7 of “Informe Final Sistema de Lixiviación” Proyecto n° 06.6622.02 prepared by Vector for Gualcamayo – Minas Argentinas S.A. Mayo 10, 2007. It considers the impact of a 500 years storm event of 24 hours of duration and 54 mm of rain. A simulation period of 123 months, that considers evaporation of the lixiviation pile and ADR tanks, climate data, among other data. During the audit was evident that PLS pond has a collector system with a free board of 1 meter, and in case of a contingency sends the excess of solution to the Contingency pond, avoiding overflowing to the environment. The Operations has two ponds: The PLS and the Contingency ponds. The PLS and Contingency ponds are connected through a collector system that avoid overtopping of the PLS. Nevertheless, these ponds are inspected in a weekly basis by Process Plant Operators and Supervisors. They perform a visual inspection of liner structural integrity, drainages, presence of wildlife, the integrity of safety nets that prevent the entry of wildlife, and they test the solution return pumps. The Operation has weather stations that are equipped with a precipitation device. One of the weather stations is located close to the lixiviation pile. Records are kept in the environmental department of the company and reported to process plant area in a regular basis.

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

The operation is

- [x] in full compliance with
- [] in substantial compliance with
- [] not in compliance with

**Standard of Practice 4.4**

The operation has implemented measures to restrict access by wildlife and livestock to all open waters. Especially the PLS solution pond were the auditor verified a net covering the entire pond and it is in good condition of integrity. The ADR process plant is fenced around the area.
The entire process was designed to avoid any open water areas. The only pond that can contain Cyanide solution over 50 ppm WAD is the PLS pond that is covered with a net as described in point 4.4.1. The solution is applied through a drip irrigation system. The Operators verify frequently if any significant pounding are forming. In that case there is a procedure in place to correct this effect. During the audit the lixiviation pile was revised and was no evidence of any pounding.

**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 substantial compliance with   Standard of Practice 4.5
☐ not in compliance with

**Summarize the basis for this Finding/Deficiencies Identified:**

The Operation does not have any direct discharge to surface water. The Operation does not have indirect discharge to surface. There is a monitoring system in place to verify if there are any leaks under the lixiviation pile and PLS pond. The monitoring is done according to POMMyC Rev. 2. There is a river that is located away of the Lixiviation Pile and ADR Plant, however the Operation carries out environmental monitoring of this superficial water that includes Cyanide measurements (free, WAD and Total Cyanide). The auditor verified the records of this monitoring and noted that there is no Cyanide concentration in that water. There is no ground water beneficial use downstream of the Mine; however the Operation has an extensive underground monitoring plan that considers determination of Cyanide (free, WAD and Total) concentration. There has been no detection of any Cyanide concentration since the beginning of production.

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

The operation is  
☐ in substantial compliance with   Standard of Practice 4.6
☐ not in compliance with

**Summarize the basis for this Finding/Deficiencies Identified:**

The Operation does not have any TSF facility. The Operation does not have indirect discharge to underground or surface water. There is a monitoring system in place to verify if there are any leaks under the lixiviation pile and PLS pond. The monitoring is done according to POMMyC rev. 2. Additionally there are two deep-water monitoring wells, upstream and downstream the lixiviation and process area (approximately 200 meters depth) that contacts underground water. These wells are monitored in a regular basis and there has been no detection of any Cyanide concentration since the beginning of production.
SUMMARY AUDIT REPORT

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

- X in full compliance with
- □ in substantial compliance with
- □ not in compliance with

**The operation is**
- □ in substantial compliance with Standard of Practice 4.7
- □ not in compliance with

**Summarize the basis for this Finding/Deficiencies Identified:**

All Cyanide unloading, storage, mixing and process solution tanks have containment measures as per project documents and visual inspections done by the Auditor. Secondary containments for Cyanide tanks and other facilities are designed to contain at least 110% of the major tank volume. This was verified through drawings and visual inspections. The system has been designed with sumps and dedicated pumps and piping to return all water to the production process. All tanks containing Cyanide solution or any other dangerous substance have secondary containment. However, the Operation has procedures in place to remediate any contaminated soil to avoid adverse impacts. The Operation has a Preventive Maintenance Plan. There are also visual inspection to detect any potentially damage to the structure of pipelines, tanks and secondary containments. All pipelines connecting the Lixiviation Pile, the ADR Plant, PLS Pound and Contingency Pound are lined with HDPE through all its extension to collect any leaks.

*Standard of Practice 4.8:* Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

- X in full compliance with
- □ in substantial compliance with
- □ not in compliance with

**Summarize the basis for this Finding/Deficiencies Identified:**

During the construction skilled personnel reviewed the facilities and the work done. All records are on files in the process plant. The Operation has also drawings and approvals for construction. The facilities were built and tested in a control and quality assurance program. During the audit was showed the existing documentation and records of such controls. The QA/QC program and the records reviewed and verified during the audit, show that the materials are correct according to design specifications, the compaction has been adequate, the bases and foundations of the tanks are suitable, membranes are appropriate and have been placed according to design and assembly specifications.

The Operation has plans as built of Cyanide facilities approved by the authority. Some of these plans were checked by sampling during the audit.

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

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

Summarize the basis for this Finding/Deficiencies Identified:

The Operation has written procedures and monitoring programs. The sampling and analytical protocols were developed by qualified personnel before the start of sampling activities and approved by the Enforcement Authority. These protocols were performed according to international standards such as Standard Methods for the Examination of Water and Wastewater. The procedures indicate sampling location, date to be taken, method of preservation, chain of custody, instructions for shipment to the external Laboratory. All monitoring are done according to the characteristics of the monitored medium, and the frequencies are set in the monitoring program. It was evident that the last five monitoring of water have been made on the stipulated dates. Wildlife mortality observations is monitored twice a year (made by an external qualified professional consultant), and operators reports any circumstances or findings related to fauna to the Environmental Department.

The monitoring frequencies applied in the Operation are adequate to identify changes in a timely manner.

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  X in full compliance with
☐ in substantial compliance with  Standard of Practice 5.1
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The Operation has developed a complete "Conceptual Closure Plan" in September 2010. This plan was developed with the Company Piésold Knight Consulting, who has the qualifications and experience appropriate for the development of such activities. Conceptual Closure Plan includes periodic reviews. The detailed Closure Plan will be conducted two years before the planned closure of the facilities according to Regulatory Requirements of the Province of San Juan and the Argentina Country.

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

X in full compliance with
"Conceptual Closure Plan" of the Operation has an estimated cost of U.S. $ 51,082,297. The costs were estimated using third-party costs provided by the consultant company Knight-Piésold, which was specially contracted to perform this job. The costs were determined by Knight Piésold using the referential data base information that they have, and apply to perform the entire necessary tasks related with the closure activities. Included in the Conceptual Closure Plan, there is a complete list describing all tasks and the referential unitary costs used to the estimation. The estimated cost of Conceptual Closure Plan has been audited by qualified external Auditors (Deloitte). www.deloitte.com. During the audit were verified the certification signed by Lic. Norberto Manzino, Contador Público, graduated at “Universidad de Buenos Aires”, License Number 1520 from “Consejo Profesional de Ciencias Económicas de la Provincia de San Juan”.

Financial Methodology used includes the assessment of recognition of the Asset of Retirement Obligation liability in the period it was incurred, such as at acquisition or construction. The liability equals the present value of the expected cost of retirement/remediation. An asset equal to the initial liability is added to the Balance Sheet, and depreciated over the life of the asset. The result is an increase in both assets and liabilities. For the recognition and recording of the present value, the discounted cash flow (DCF) analysis was a method of valuing the retirement obligation asset using the concepts of the time value of money. All future cash flows are estimated and discounted to give their present values (PVs) — the sum of all future cash flows, both incoming and outgoing, is the net present value (NPV), which is taken as the value or price of the cash flows in question.

6. WORKER SAFETY: Protect workers’ health and safety from exposure to cyanide.

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

X in full compliance with

The operation is □ in substantial compliance with Standard of Practice 6.1 □ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The Operation procedures mention the use of personal protective equipment (PPE) as applicable. Personal protective equipment (PPE) used brands are approved by IRAM (Argentina Legislation). Additionally, Gualcamayo’s operational procedures require pre-work cyanide facilities inspections where appropriate.
SUMMARY AUDIT REPORT

The Operation takes into account the views of Operators to develop procedures. The Operation has implemented a change management procedure within its Safety Management System.

*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

**Summarize the basis for this Finding/Deficiencies Identified:**

The facilities are operated at pH 10.5 ± 0.5. The pH is monitored by analysis of rich and poor solutions, and also by doing specific analysis in five predetermined points with a frequency of 2 hours. The pH is maintained by the addition of lime to the ore stored in the piles (during the stacking). The Operation has on-line pH meters that are monitored from the Control Room. Safety showers that operate at low pressure are installed in strategic areas according to risks. The Operation has a weekly inspections program to ensure operability.

Portable dry chemical powder fire extinguishers are installed and are controlled through monthly inspections. The inspection records are kept in the Process area. The Operation has developed a standard for color coding. During the audit was verified that the Operation is repainting the facilities and is placing flow direction arrows on pipes and product identification trough special stickers. All workers are trained to be aware of the meaning of the color coding applied in the Operation, to identify cyanide presence and other potentially dangerous solutions in tanks and pipelines. The training is made during the safety induction process, and trough special operational trainings done at the process area. Additionally, there are color coding boards located at the Process Plant and at the main offices, showing the different colors according to the Operation’s Standard.

*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

**Summarize the basis for this Finding/Deficiencies Identified:**

The Operation has enough water, oxygen, rescuers, antidotes, radios, telephones, satellital telephones, and alarms for emergencies. During the audit the intervention kits were verified at Process Plant and Laboratory (amyl nitrite vials, oxygen, respirators, resuscitator, gauze, and latex gloves). The plant has an alarm system also. The emergency is triggered according the Emergency Preparedness and Response Plan. The Operation
has a weekly inspection program conducted by the Medical Service. Antidotes are maintained according to manufacturer's recommendations and replaced according to their recommendations. During the Audit it was verified. Records were available at each Emergency kit. The Operation has a “Micro Hospital” with all the equipment and infrastructure necessary to respond in case of Cyanide poisoning. Two Doctors are permanently available. The Operation has two Ambulances equipped as Intensive Care Unit. The Auditor interviewed the Medical Director and checked the training records and qualifications. The Operation has Medical Staff and enough material resources and medicines to deal with, in cases of Cyanide poisoning. For this reason it is not necessary to transfer any patient to another Medical Center. The Operation performs drills. The programs are documented in the “2011 Emergency Drills Program”. After each drill, it is performed an evaluation according to Emergency Preparedness and Response, ANNEX VI "Assessment Report of the Emergency Response Plan and Drills."

7. EMERGENCY RESPONSE  Protect communities and the environment through the development of emergency response strategies and capabilities.

Standard of Practice 7.1: Prepare detailed emergency response plans for potential cyanide releases.

X in full compliance with 

The operation is

☐ in substantial compliance with Standard of Practice 7.1

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The Operation has developed a comprehensive plan to deal with emergencies Emergency Preparedness and Response which takes into account the possible scenarios related to Cyanide releases. The emergency response plan is evaluated and reviewed after the carried out and results.

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

X in full compliance with 

The operation is

☐ in substantial compliance with Standard of Practice 7.2

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The planning process has involved Operations Workers according to Emergency Preparedness and Response Rev.5, point 3. There is no nearby communities in the vicinity of the Operation or downstream of it, which should react to a leak. There is no significant possibility of affecting any Community due to Cyanide releases from the Operation. The
only potential scenery is to have an accident during the transportation of solid Cyanide. The Operation communicates the risks of Cyanide and how to act in case of an emergency by handing over the "Manual of Information for the Community" and through social programs of Community Relations. The Operation has considered the transport routes, the physical and chemical characteristics of Cyanide (solid), the method of transportation, road conditions and characteristics of the trucks. All this are included in: “Estudio de Rutas para el Transporte Carretero de Cianuro de Sódio Sólido para Proyecto Gualcamayo” (Updated July 2008); DuPont “Procedimiento de Transporte”, Rev. 001 Nov. 2007; Apéndice 3.3B, “Plan de Contingencias del Transporte para Minas Argentinas S.A. Mina Gualcamayo, Rev. 003 Oct. 2008 and Preparación y Respuesta a Emergencias” Rev.5, Anexo III Punto 3.1.

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

The operation is

- ☑ in full compliance with
- ☐ in substantial compliance with Standard of Practice 7.3
- ☐ not in compliance with

**Summarize the basis for this Finding/Deficiencies Identified:**

The Operation has developed and implemented a detailed Emergency Response Plan (ERP): PES 09 00 3.6 002 “Preparación y Respuesta a Emergencias”. The Plan identifies the different emergency scenarios, brigade members, responsibilities, resources, communications, the necessary emergency response equipment and first aid to manage all cyanide incidents at the Operation, including the use of onsite medical facilities. The Emergency Response Plan defines the primary and alternate emergency response coordinators for the Chief of Brigade, the Leader and Brigades. In the absence of the Chief of Brigade, the responsibility is delegated to the Leader of Brigade. The Plan include a section describing the necessary training required for the Brigade members and drills are conducted according to the program of emergency drills. The Chief of Brigade and Brigades are responsible for the overall management of the emergency (Human Resources, Equipment, Material and Supplies, Communication, Production and Decisions) at the site. The PES 09 00 3.6 002 contains a list of onsite emergency responders, the ambulance service and the onsite Medical Service. The Operation requires training and qualifications 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 telephone numbers of the Emergency Response Team and Chief of Brigade. The PES 09 00 3.6 002 has a section describing Gualcamayo Personnel Duties and Responsibilities for the Chief of Brigade and Brigade Team. The PES 09 00 3.6 002 contains a list of emergency response equipment. All emergency equipment and supplies are inspected monthly by the Safety Department.
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Standard of Practice 7.4: Develop procedures for internal and external emergency notification and reporting.

X in full compliance with

The operation is
☐ in substantial compliance with Standard of Practice 7.4
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Phones and contact agencies are detailed in PES 09 03.06 002 "Emergency Preparedness and Response" Rev.5. In addition, the Operation has a standard for crisis management PES 09 00 3.6 001 "Crisis Management". The plan includes contact numbers and procedures for notifying potentially affected Communities. PES 09 00 3.6 002 Emergency Preparedness and Response Rev.5, Item 14. The Emergency Plan includes the telephone number of the Communications Coordinator of the operation, who maintains the list of contacts with the media.

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

X in full compliance with

The operation is
☐ in substantial compliance with Standard of Practice 7.5
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The Operation has for recovery or neutralization of solutions or solids the followings procedures implemented: PES 09 00 3.6 002 “Preparación y Respuesta a Emergencias” Rev.5;POMMyC “Plan de Operaciones para el Monitoreo Mantenimiento y Contingencia”, Rev. 2; POPE PRO 044 Rev. 2; “Control de Derrames de Cianuro en Planta”. The source of drinking water is from bottles. There is no well water consuming at the mine neither from water treatment plant. In these documents it is mentioned that in case of spills of cyanide, it should be contained, neutralized, absorbed and removed the affected soil for both liquid solutions and for solid cyanide.

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

X in full compliance with

The operation is
☐ in substantial compliance with Standard of Practice 7.6
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:
Annually the Operation reviews and evaluates its emergency plan PES 09 00 3.6 002 "Emergency Preparedness and Response". The Emergency Plan is also reviewed when any of the following conditions: New projects, modifications and / or changes in processes, incorporation of new hazardous materials, identification of new environmental aspects, as a result of the analysis of emergencies and/or drills, hazard identification and risk assessments revision, or/and after events. Drills directly related to cyanide emergencies are performed 3 times a year, according to the Drill Plan.

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

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

The operation is X in full compliance with

☐ in substantial compliance with Standard of Practice 8.1
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

All persons who work with Cyanide or may encounter Cyanide are trained according to Procedure Competence Management. The Operation periodically made refreshing training to all personnel that may encounter cyanide. There was evidence that the Operation coordinated with Dupont (Ing. Jean Jacques Covos), a Cyanide refreshing training called "Train the Trainer" (which had already been dictated last year) for supervisors and key personnel who handling and operate Cyanide products or solutions. The auditor confirmed that this training was dictated on May 4, 2011. The Supervisors and key personnel that received the “Train the Trainer” course presents training and refresh training to the Operators that may encounter cyanide during their activities. The refresh is within the plan of re-training of staff "Safe Handling of Cyanide". Training records are retained by the Operation. At the process Plant records are kept for their staff. Records of training of the Brigade, as well as drills are kept by the Head of the Emergency Brigade. Training records of the Medical Services are retained in that area by the Occupational Physician. Also, the Induction Training Records are retained by the Safety and Environmental Department.

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 X in full compliance with

☐ in substantial compliance with Standard of Practice 8.2
☐ not in compliance with
SUMMARY AUDIT REPORT

Summarize the basis for this Finding/Deficiencies Identified:

The Operation has developed a complete system of Hazard Identification and Risk Assessment, which include the risks associated with Cyanide, procedure “Identificación de Peligros y Evaluación de Riesgos SSO”. The Operation has developed operational controls for all identified risks and Operating Procedures have been written. The Operation has a Matrix of the necessary training for each worker and determined the frequency of refreshing training that should receive every employee. All workers are trained in operational procedures, especially in how to safely carry out their activities. The Operation has a PowerPoint presentation for training on Cyanide that has been developed by Dupont. It also has a video explaining how to act in case of poisoning and how to administer Amyl Nitrite. All Workers (including Contractors) who will carry out activities related to Cyanide - or in areas of Cyanide - receive training specific induction of Cyanide before commencing their activities. All records are kept by the Operation. The records include the name of the person trained, trainer's name, date of training and / topics that were discussed.

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

X in full compliance with

The operation is

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

Summarize the basis for this Finding/Deficiencies Identified:

In the Operation all personnel in connection with such activities have been trained in emergency response and how to act in case of poisoning. Routine drills are conducted according to the scenarios identified in the Emergency Plan 7.1.2 according to the protocol of ICMI. All staff of the Emergency Brigade is trained in appropriate procedures to respond to different scenarios. They also have training on the use of the equipment necessary to attend the emergency. Operation has not designated any external Community responsible to attend emergencies with Cyanide. In case of poisoning, Gualcamayo Mine is prepared to attend the emergency and has all the necessary antidotes and trained staff. The Emergency Plan establishes that Gualcamayo first aid will be provided by the medical staff of the Operation. The Operation performed regular training on the response in case of Cyanide release or other emergency involving Cyanide. After performing the drills, results are evaluated and a report is issued. This report is then used to correct the deviations found, and thus improve the emergency response. The Brigade Members are retrained on the basis of these results. All records are retained by the Operation. The records include the name of the person trained, trainer's name, date of training and / topics that were discussed. During the audit the workers interviewed and brigade personnel were knowledgeable about the training received. The effectiveness of the training was verified by the Auditor on interviews with staff and evidence of written tests.

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

- **X** in full compliance with

The operation is
- ☐ in substantial compliance with **Standard of Practice 9.1**
- ☐ not in compliance with

**Summarize the basis for this Finding/Deficiencies Identified:**

The Operation provides the opportunity for Communities and Stakeholders to be informed and to voice their concerns on issues related to the safe handling of Cyanide. Before commissioning, the Operation communicated to all stakeholders the methodology of process and environmental care. Community programs are lead by the Vice President of Minas Argentinas S.A. in charge of the Community Relations area. The Area of Community Relations (RRCC) has two main branches: Institutional Relations and Community Relations.

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

- **X** in full compliance with

The operation is
- ☐ in substantial compliance with **Standard of Practice 9.2**
- ☐ not in compliance with

**Summarize the basis for this Finding/Deficiencies Identified:**

The Operation provides opportunities for Stakeholders to interact through several programs which include: “Puertas Abiertas Program” (Open Doors Program), “Alianzas Seminar” (Partnership Seminars Program), “Integrar” (Integrar program) and “Día Integrar” (Integration Day); “Participación Ciudadana (Citizen Participation Program) During these interactions, the Operation presents the processes and environmental care in place for a safe and responsible handling of Sodium Cyanide.

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

- **X** in full compliance with

The operation is
- ☐ in substantial compliance with **Standard of Practice 9.3**
- ☐ not in compliance with

**Summarize the basis for this Finding/Deficiencies Identified:**

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The Operation has developed written materials and presentations, describing the way it conducts its activities and how the Operation manage the Cyanide safely and in a responsible manner. After each presentation, the company provides it as printed information. Also, after the presentation, the company provides the following written materials: Manual for Community Information. The manual objective is to make available to the community, information on events that can produce health risks to the population or the environment, and actions to take in each case. Monitoring Manual for Common Use: It consists in a quick guide to the environmental monitoring plan of Gualcamayo. "The Management of Cyanide in Gold Extraction" – Logsdon, Hagelstein and Mudder - (ICME). The presentations of the information are oral and visual, including photos and drawings. During dissertations, speakers use simple language and accessible to all persons, so that everyone understands how the company conducts its activities. However, the percentage of illiterates in the region is not significant. If a significant incident with Cyanide occurs regarding releases on or off the mine site resulting in significant adverse effects to health or the environment, the Operation policy is to send all the information to the Government Enforcement Authority (Mining Police), who maintains this information available to the public.