



INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Gold Mining Operations

Summary Audit Report Form

September 07, 2008

(1st draft 14/03/2008)

AngloGold Ashanti – Córrego do Sítio

***For The
International Cyanide Management Code***

www.cyanidecode.org

July 2005

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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: AngloGold Ashanti Brasil Mineração Ltda.
Name of Mine Owner: AngloGold Ashanti
Name of Mine Operator: AngloGold Ashanti
Name of Responsible Manager: José Roberto Vago
Address: Fazenda Cristina, s/n. Distrito de Brumal, Santa Bárbara.
State/Province: Minas Gerais, MG. Country: Brazil.
Management representative: Mr. Rogério Leal
Telephone: +55 31 3589-2401 Fax: +55 31 3589-2455
E-Mail: RMLeal@anglogoldashanti.com.br

Location detail and description of operation:

Heap Leach Plant – Corrego do Sítio Mine

Córrego do Sítio mine is located in the municipality of Santa Bárbara – Minas Gerais, 140 km from Belo Horizonte. The ore treatment is undertaken in a Heap Leach Plant, with capacity to treat 240,000 ton/annum of ore, reaching a production of 1,000 kg/annum of gold, and that consists of three stages: crushing, heap construction and hydrometallurgy.

Crushing is undertaken in two stages, being the first through a jaw crusher and the second through a hammer crusher. The product from the crushers feeds a sieve from which the final product is 100< 3/4 in. The crushed material is agglomerated, when cement is added between 6 to 10 kg/ton of ore before it is directed through conveyor belts to the heap formation area.

Heaps are piled using a 6 meter high stacker. The total area of the heaps has a capacity of 6 piles, each with the dimensions of 80 x 40 x 6 m (L x W x H), corresponding to 20,000 tons of ore. The heap life cycle consists of: heap formation, leaching, washing, neutralizing, drying and decommissioning, which lasts about 135 days. Gold recovery at the end of the cycle is about 89%.

Gold is extracted from the piles in solution, through chemical dissolution by a leaching solution of sodium cyanide (NaCN), at 200 g/ ton. It is then pumped to the hydrometallurgical plant where it is recovered in adsorption columns through CIC – Carbon in Column. Gold loaded carbon is directed to desorption columns where gold is recovered through an elution process named Zadra, followed by electrolysis. This circuit consists of five adsorption columns with capacity for 750 kg of carbon and two desorption columns with capacity to 1500 kg of carbon.]

The metallurgical plant has an effluent treatment station which could be used in an emergency case. It is prepared to neutralize eventual cyanide incident effects via utilization of hydrogen peroxide with 50%, catalyzed by copper sulphate.

The final product of the Hydrometallurgical plant is an electrolysis cathode, named “wool” which is then transported to Queiroz Plant in Nova Lima, for smelting and refining.

Auditor's Finding

This operation is

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

with the International Cyanide Management Code.

* The Corrective Action Plan to bring an operation from substantial compliance to full compliance must be enclosed with this Summary Audit Report. The plan must be fully implemented within one year of the date of this audit.

Audit Company: NCA - NOSA Certification Authority Ltda., Brasil

Audit Team Leader : Julio Monteiro (acting as Lead Auditor on training under Celso S. Pessoa care)

Names and Signatures of other auditors:

Eberson Cássio de Andrade: eberson.cassio@nosa.com.br

Audit Team - Technical and Operational Supervision: Celso Sandt Pessoa

E-mail: celsosandt@ncabrasil.com.br and celsopeessoa@nosa.com.br

Date(s) of Audit: 18 to 22 September, 2007 (on site), 03 to 07 December 2007 (on site) and 12 to 14 December, 2007 (off site).

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.

OFÍCIO DE NOTAS E REGISTRO DE CONTRATOS MARÍTIMOS
Rua do Acre, 28 - Centro - RJ - Tel.: (21) 2253-3459 - Tabelião Aloir Melchades de Souza

Reconheço por SEMELHANÇA a firma de:

(2AMDO9731-CELSON SANDT PESSOA)

Rio de Janeiro, 23/01/2009

CLAUDIA RODRIGUES MORAIS ANDRADE

Serventia : 3,68

30% TJ+ Fundos : 1,09

Total : 4,77



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

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

The operation is **X** in full compliance with
in substantial compliance with Standard of Practice 1.1
not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The company buys the cyanide from Cyplus GmbH Germany (ICMI certified) according to the contract # AGABM/081/07 (Cyanide purchase and sale contract).

AGAM's policy is to buy cyanide from suppliers that are certified according to ICMI requirements for cyanide producers. AGAM buys, in a corporate way, the cyanide for all its operations in Brazil (Santa Bárbara plant, Serra Grande plant and Nova Lima plant), from Cyplus GmbH (Rodenbacher Chausse, 4. 63457, Hanau-Wolfgang, Germany). It was evidenced the contract AGABM/081/07 (dated 29/08/2007), between the two companies, addressing all issues related to cyanide supply.

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

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

The operation is **X** in full compliance with
in substantial compliance with Standard of Practice 2.1
not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was found evidences that all responsibilities related to safety, security, release prevention, training and emergency response are addressed at Cyanide purchase and sale contract AGABM/081/07 signed between the company and Cyplus GmbH Germany.

It is specified and used an UN approved packaging in a wooden box with a pallet base, containing 1000kgf (net) of solid cyanide, in a HDPE inner liner, hermetically sealed and packaged in a woven PP big-bag with lifting loops, stowed in a 20 cubic feet seaworthy closed, general purpose ocean container, with 20 metric tons (net), all in accordance with UN and IMDG regulations. All labeling is accordance with UN regulations, German and Brazilian legal requirements. Text also available in English. All storage requirements are clearly addressed at the purchase contract between Cyplus and AGAM. Responsibilities related to route planning are clearly specified at the contract.

Evidences are available that there is a contract between Cyplus and Localfrio S.A, responsible for storage and security while at Santos Port. It was evidenced that all responsibilities related to the transport to the operation, unloading at the operation, safety and maintenance of all means of transport, task and safety training for transporters and handlers throughout transport, security throughout transport, emergency response throughout transport are addressed at the contract between Cyplus and AGAM.

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

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

Summarize the basis for this Finding/Deficiencies Identified:

The contract between AGAM and Cyplus requires that all transporters used shall be certified according to ICMI requirements for transporters or be audited by an independent third part of its transportation activities. The transportation documentation, from Cyplus to AGAM facilities (invoice, purchase order, inspections certificates, quality control certificates) are kept by AGAM.

The transporters used by Cyplus and AGAM have Code-equivalent, non-certification audits and due diligences conducted by Code-approved auditors and have programs and procedures implemented consistent with the ICMI Audit Protocol for Transport of Cyanide. Transportation was found in substantial compliance with this standard of practice because the auditor considered that the route map of the transporter Niquini needs to be better documented. It was clear to the auditor that the transporter Niquini has made a good faith effort to comply with Code requirements, that the deficiency can be corrected within one year and that there is no immediate or substantial risk to health, safety or environment, as the route map does exist and only needs a more formal presentation.

AGAM will submit an Action Plan to ICMI in order to demonstrate its commitment on certifying that the transporter Niquini will implement its Action Plan addressing entirely all Standards of Practice of Cyanide Transportation Verification Protocol.

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

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

The operation is	X in full compliance with	
	in substantial compliance with	Standard of Practice 3.1
	not in compliance with	

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Summarize the basis for this Finding/Deficiencies Identified: (Due to the sensitivity of security issues regarding storage of cyanide, no descriptions of substantial or non-compliance with this aspect of the Standard of Practice should be provided).

AGAM facility has an integrated area for receiving, storing and mixing cyanide, that was built according to Cyplus guidelines. Brazilian engineering council guidelines and also Brazilian technical specifications for quality, environment, health and safety (Regulating Standard NR-18).

As built drawings were reviewed and the field audit of this area, confirmed the area to be in conformance with all that guidelines.

The unloading and storage areas for solid cyanide is located away of people and surface waters.

The cyanide solution tanks are provided with level indicator and also high-level alarm system as a method to prevent the overfilling of cyanide storage tanks, such as a level indicator and high-level alarm.

All areas for storage and preparing of cyanide are made of concrete to prevent seepage to the subsurface.

Concrete floor and walls, and HDPE carpets were used to build secondary containments.

Cyanide is stored, in its original packaging, in a well ventilated area, under roof and the big-bags lay down on pallets, in an area fenced and locked. No other product is allowed to be stored in this area.

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:

Inspections and preventive maintenance systems are in place. Wooden boxes are dismantled and stored at a specific warehouse for dangerous solid waste, which access is restricted. The final disposition is the thermal destruction provided by RESOTEC, which is qualified by the local EPA to supply this kind of service.

All cyanide plastic bags and big-bags are neutralized three times and after that thermally destroyed. The rinse water is discharged in the cyanidation process loop.

There are operational procedures to prepare the cyanide solution with solid cyanide. Valves are protected. A JSA (Job Safety Analysis) is done before the mixing operation starts.

There are in place inspection procedures applicable to the cyanide containers that will be sent back to the transporter and there are procedures to prevent rupturing of cyanide containers, to limit the stacking height of cyanide boxes and to clean up spills from mixing, as evidenced in the field.

The mixing operation is done by two operators, where the second one stays in a remote area. Materials used to mitigate any spills are available at the mixing area. Both operators are equipped with all required PPEs (Tyvec overall, gloves, boots, oxygen tanks, masks, radio,

HCN detectors) for this operation. In the event of any potential incident, there is a well equipped first aid area.

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	Standard of Practice 4.1
	not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

The company did establish and implement an inspection and maintenance plan (preventive and predictive), covering all cyanide related equipments and piping, including the tailing dam.

During the analysis of the documents, it was checked that all procedures mentioned previously incorporate and refer to the parameters considered in the design of receiving, storage and preparation of cyanide solution areas.

Risk analysis management is also another tool found established and implemented and used to evaluate the effect of the changes in the process that could cause cyanide spills. The company has a SHE management system based on the NOSA model, which is certified according ISO 14001 and OHSAS 18001 by NQA-USA.

Management and operational documented procedures were evidenced in place and implemented.

All process operators are trained in the a.m documents (on the job training). Dynamic risk analysis is used by AGAM to evaluate the potential risks related to cyanide in its operations. Also, a dynamic risk analysis is used by AGAM to evaluate the effect of the changes in their process that can cause cyanide exposition or spills. A change management procedure was established and implemented.

There is in place a water balance contingency plan. A general contingency plan (shut-down process – PL-O-VPOP-015-rev1, pages 26 and 27 considers, among other actions, the temporary or permanent closure of plant operations in case of any emergency occurs or in case of the monitoring identifies any anomaly.) was also established by the operation and includes the leaching pile decommissioning and neutralization.

Operational procedures were developed and operators and supervisors trained and approved for their functions. Inspections, job safety analysis, planned job observations and preventive maintenance are usual tools at AGAM.

There is an inspection plan in place covering the process plant (installations and equipments). Inspections records were established addressing the date of inspection, the inspector name, non conformances and required corrective actions and dispositions.

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AGAM did establish and implement a preventive maintenance plan specific to cyanide related to equipments and systems. All required maintenance activities are documented at standard maintenance jobs.

AGAM established an emergency power system, composed by one diesel generator. Maintenance and testing records (weekly basis) were evidenced.

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

The operation is	X in full compliance with	
	in substantial compliance with	Standard of Practice 4.2
	not in compliance with	
	not subject to	

Summarize the basis for this Finding/Deficiencies Identified:

This Standard Practice does not apply to Córrego do Sítio as the process has no milling facilities. As the ore is oxidized, the process is only a primary crushing, a classification fase and heap leaching.

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	Standard of Practice 4.3
	not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

Evidence was available that exist a water balance management system: "Relatório balanço Hídrico da Planta Metalurgica CDS" dated 30/07/2007.

The water balance considers solutions rates applied to leach pads. Corrego do Sitio has no tailing dam and cyanide solution is in a closed circuit. Evidence was available that a control of cyanide total and pH exists.

Storm history is well known by the operation but this is not applicable for this operation, because this company does not have a dam.

The evaporation rate is monthly calculated in the pools.

Evidence was available that the company monitors the allowable direct discharges to surface water.

The reservoirs and ponds were designed taking into account the storm events.

The water balance considers a power outage and has a diesel generator in stand-by in case of emergency, despite there is no critical function in the heap leach operation to be maintained in case of a power failure.

Potential discharges to surface waters are only possible during emergency situations (rainy season), and shall be prior authorized by the environmental quality control laboratory and the plant general manager, in order to assure that the cyanide contents are in conformance with Brazilian legislation and ICMI criteria.

It was evidenced that the facility measures the precipitation and compares the results to design assumptions, according to the water balance management procedure. Operating procedures are kept up to date.

There is no indirect discharge to surface water. Total and free cyanide are also controlled. Recorded values for these two parameters are in accordance with local EPA and ICMI, respectively. There is an established mixing zone and the concentration of free cyanide downstream of the mixing zone is less than 0,022 mg/l free cyanide, as evidenced in a procedure and monitoring, respectively. Records were observed and found in compliance with the standards.

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 full compliance with
☐ in substantial compliance with Standard of Practice 4.6
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Evidence was available that exist a weekly monitoring in the 14 drains below the stack of leaching. The entire leaching area is recovered with HDPE, all pipelines are inserted into channels recovered with HDPE and the ones not inserted have double wall to minimize the risk of leaking; alternatively, some pipelines are recovered with ventilation flexible ducts. The tanks were also built with bottom recovered with HDPE and among them there is a monitoring point to ensure that there is no infiltration from the tanks to the groundwater.

In a preventative way, monitoring of groundwater nearby the plant is performed to verify if WAD cyanide concentrations are complying the limits stated by the legislation.

As mill tailing is not used as underground backfill, there is no potential impacts to worker health and the beneficial uses of ground water by the operation.

The operation has never caused cyanide concentrations of ground water to rise above levels protective of beneficial use. The operation does not use ground water for its activities.

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

The operation is ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 4.7
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Cyanide tanking areas are surrounded by containment wall, constructed according engineering specifications and according to Brazilian safety and environmental laws. Walls and floors are made of competent concrete and previous soil compaction, as well as the mixture of the concrete follow the applicable legislation of the country, providing spill prevention and containment measures.

Evidence was available that a system of gutter and channels exists in close circuit with the tanks.

Projects: FE1002M009, and MC1002B010 were checked. Secondary containments were designed to support 110% of the content of the largest tank. There is a drainage system also in place from the cyanide preparation tank to the tank TQ05, enough to drain any leakage, including storm events.

In case of solution leaking to the containment, a valve is opened manually on the outside of this containment and the solution will be driven through the channel recovered with HDPE to the TQ05.

Evidence was available that all tanks have secondary containment.

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Areas where cyanide pipelines present a risk to surface water have been evaluated for special protection needs, as evidence was available that all pipelines are laid into channels recovered with HDPE and the pipelines that are not inside channels have a double wall to minimize the risk of leaking; alternatively, some pipelines are recovered with ventilation flexible ducts. Evidence was available that all pipelines are placed in protected areas. Evidence was available that exist a materials specification, according to documents.

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

The operation is **X** in full compliance with
in substantial compliance with Standard of Practice 4.8
not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Projects evidenced that quality control and quality assurance programs have been implemented during construction and modifications of cyanide facilities.

Material Specifications List, SPT's (Standard Penetration Test) and related reports evidence that quality control and quality assurance programs have addressed the suitability of materials and adequacy of soil compaction for earthworks.

Quality control and assurance records were maintained by the plant.

A civil engineer reviewed cyanide facility construction and provided documentation that the facility has been built as proposed and approved.

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

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:

A monitoring plan, according to local EPA and ICMI requirements was found established and implemented. The plan is linked to the documented procedures PD-A-VPOP-076(2)/ environmental monitoring, RO-O-DRMI-025(0) and RO-O-DRMI-026(0) for sampling and evaluation methods, which address the system for sampling collection, testing and preservation (environmental waste water control). The documented system was evidenced to be implemented.

All documentation was reviewed and approved by AGAM Environment person, Mrs. Irani Braga/ Chemical engineer and also by the environmental laboratory head, Mrs. Álida (CRQ (Brazilian Chemical Council), # 024.026.94).

Monitoring plan addresses the monitoring points, for surface waters and drained waters. There are in place daily and monthly controls. A report, dated 30/07/07, covering the period between 01/04/07 to 30/06/07, was reviewed and found in conformance.

There is a daily inspection system in place for the operational area. No mortalities evidenced in the last years. The monitoring frequencies are in accordance with the Brazilian environmental laws, and prescribed by the local EPA.

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 company did establish and implemented specific plans for partial and final decommissioning activities. AGAM did establish a "punch list (decommissioning plan)", last up-dated 13/11/06.

This plan is, at least, updated annually, by the environmental management process. AGAM's Environmental department has also established a closure plan (last up-dated 30/08/2007).

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

The operation is **X** in full compliance with
in substantial compliance with Standard of Practice 5.2
not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The company has identified the estimated cost to implement the final decommissioning plan, according to the "reclamation cost report" dated 13/11/2006 (annually updated). The required

funds to cover the estimation's estimated decommissioning cost were evidenced to be available according to a third part audit (Ernst & Young, with register CRC (Regional Accounting Council) 2SP015.199/O-6-F-MG and report dated 26/01/2007, by Mr. B. Alfredo Baddini Blanc – register CRC 1SP126.402/O-S-MG.) that was conducted in accordance with the auditing standards applicable in Brazil which is ruled by the Federal Accounting Council - CFC; the audit methodology used is ruled by the resolution CFC 820/97 which approved the use of the Brazilian Accounting Standard NBC - T11. (Ernerst & Young has decided to use a brazilian methodology due to it to be aligned with "BRGAAP – Brazilian General Accounting and Audit Procedures, through Resolution #963 issued by the Brazilian Association of State Boards of Accounting" and to be absolutely in line with USGAAP).This audit did encompass all AGAM operations in Brazil (Morro Velho, Serra Grande and Córrego do Sítio). AGAM's Environmental department has established a closure plan (last

up-dated 30/08/2007). AGAM did identify the economic resources required to implement the decommissioning plan. This forecast is annually up-dated and the last actualization was done in July/2007.

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:

Evidences were available at:

It was evidenced that exist operational procedures describing how cyanide-related tasks should be conducted to minimize worker exposure to cyanide and that these procedures require using of personal protective equipment and address pre-work inspections.

The company has procedures to minimize risks to SHE in projects that comprehend products, equipments, buildings and processes in the purchasing, construction, comissioning and modifications phases.

The workers were involved in the beginning of the implementation of the NOSA Integrated system, and they participate every day in the 5 minutes SHE meeting, also developing and evaluating health and safety procedures.

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:

Evidence was available that a emergency plan and a operational procedure Standard Practice defines the appropriate PH to reduce the probability to produce HCN.

Evidence was available that exist permanent and personal monitoring devices where the potential exists for significant cyanide exposure.

Mina Corrego do Sitio has a monitoring program to allow the identification of NaCN and cyanide gas concentrations in the environment and activities where there is a risk of this hazard be present.

Evidence was available that all areas and activities where workers may be exposed to cyanide were identified.

The monitoring equipment is calibrated and records are kept by the operation.

Evidence was available in the field that exist warning signs been placed where cyanide is used advising workers that cyanide is present, and that smoking, open flames and eating and drinking are not allowed.

Evidence was available that exist showers, low-pressure eye wash stations and dry powder or non-acidic sodium bi-carbonate fire extinguishers located at strategic locations.

Evidence was available that unloading, storage, mixing and process tanks and piping containing cyanide were identified.

There are MSDS, first aid procedures on cyanide safety available in areas where cyanide is managed, written in the local language.

Evidence was available that exist a procedure PD-A-VPOP-004 rev2 to investigate and evaluate cyanide exposure incidents. No accidents/ incidents involving cyanide were reported. Anyway, other incidents not related to cyanide were investigated using this procedure, the causes established and appropriate corrective actions implemented.

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:

It was verified that the operation has water, oxygen, resuscitator, antidote kits and a radio, telephone, alarm system available in the area for cyanide unloading, storage and cyanide solution preparation. Also evidence was available that exist a *Plano de Inspeção Sanitária (inspection plan)* (IPPF: 2007 *Córrego do Sítio*, itens 5º, 9º e 13º).

Metallurgical plant use a specific check list named *Inspeção Kit de Antídotos de Cianeto*. (cyanide antidote kit inspection checklist). *Inspections records are kept by the plant.*

Evidence was available that exist a specific written emergency response plan named *Plano de Emergência Cianeto de Sódio – Mina Córrego do Sítio; PL-O-VPOP-015-rev1*.

Nursing auxiliars and members of the Emergency Response Team are available 24 hours a day in the company.

Evidence was available that exists a procedure to ensure the transport workers exposed to cyanide to locally available qualified off site medical facilities will be carry out.

This procedure is the *PL-O-VPOP-015-rev1*.

Evidence was available that the personnel who perform in the hospital Nossa Senhora das Mercês (7 doctors, and 1 head nurse), ~~was~~ trained in 30/08/2007 about unloading, storage, mixing, handling, transportation, PPE, types of contamination (respiratory tracts, for example), antidotes.

Evidence was available that exist a chronogram to conduct mock emergency drills. May – “Simulado de derramamento de cianeto de sódio planta”, Oct – “Simulado de vazamento de cianeto de sodio na planta” (NaCN leakage at the plant). Was evidenced the reports form this mocks emergency 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.*

The operation is **X** in full compliance with
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 an Emergency Response Plan to address potential accidental releases of cyanide, as confirmed in an existing procedure.

It was evidenced that the Emergency Response Plan considers the potential cyanide failure scenarios appropriate for its site-specific environmental and operating circumstances, including for example:

- a) Catastrophic release of hydrogen cyanide from storage or process facilities;
- b) Transportation accidents;
- c) Releases during unloading and mixing;
- d) Releases during fires and explosions;

It was evidenced in a procedure that planning for response to transportation-related emergencies has considered transportation route(s), physical and chemical form of the cyanide, method of transport, the condition of the road, and the design of the transport vehicle.

The Emergency Response Plan describe specific response actions for some situations, like for example:

- a) Electrical shock followed by driver's control loss
- b) Special procedure for falling of dry material
- c) Special procedure for falling of material into the water
- d) Collapse of tanks

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

The operation is **X** in full compliance with
in substantial compliance with Standard of Practice 7.2
not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Córrego do Sítio plant involved their workforce and stakeholders in the cyanide emergency response planning process.

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

evidenced in visits of the community to the operational areas through the program, newspapers, meetings and the phonecall free.

It was evidenced that the community, civil defense, head nurse of the Hospital Nossa Senhora das Mercês were involved in the cyanide emergency planning and response process (simulation test of may/2007). Córrego do Sítio informed to State Secretary of the Environment – FEAM in 16/05/2007, about the simulation test.

It was evidenced that the operation engaged in consultation or communication with stakeholders to keep the Emergency Response Plan up-dated, through the actualization of the project and requirements for operation permit at the emergency response State Department – Fire Department every two years and visits of the community to the operational area, when any suggestion or critic is considered.

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

	X in full compliance with	
The operation is	in substantial compliance with	Standard of Practice 7.3
	not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that the following cyanide-related elements of the Emergency Response Plan are addressed by the procedure PL-O-VPOP-015 rev1:

- a) Designate primary and alternate emergency response coordinators who have explicit authority to commit the resources necessary to implement the Plan;
- b) Identify Emergency Response Teams;
- c) Require appropriate training for emergency responders;
- d) Include call-out procedures and 24-hour contact information for the coordinators and response team members;
- e) Specify the duties and responsibilities of the coordinators and team members;
- f) List emergency response equipment, including personal protection gear, available along transportation routes and/or on-site;
- g) Include procedures to inspect emergency response equipment to ensure its availability;
- h) Describe the role of outside responders, medical facilities and communities in the emergency response procedures.

It was evidenced that the operation made outside entities, like Civil defense, firefighters brigade, hospitals aware of their role in emergency situations through a meeting. They also participate in simulation exercises.

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:

Handwritten signature

It was evidenced that the Emergency Response Plan includes procedures and contact information for notifying management, regulatory agencies, outside response providers and medical facilities of the cyanide emergency and for notifying potentially affected communities of the cyanide related incident and any necessary response measures, and for communication 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:

It was evidenced that a procedure describes specific, remediation measures as appropriate for the likely cyanide release scenarios, such as:

- a) Recovery or neutralization of solutions or solids;
- b) Decontamination of soils or other contaminated media;
- c) Management and/or disposal of spill clean-up debris;
- d) Provision of an alternate drinking water supply.

It was evidenced that a plan prohibits the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide that has been released into surface water.

It was evidenced that a procedure addresses the potential need for environmental monitoring to identify the extent and effects of a cyanide release include sampling methodologies, parameters and, where practical, possible sampling locations.

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:

The operation reviews and evaluates the cyanide related elements of its Emergency Response Plan for adequacy on a regular basis, as evidenced in a procedure.

Mock cyanide emergency drills are conducted periodically as part of the Emergency Response Plan evaluation process, as evidenced in a simulation schedule, with formal reports, including pictures from the event and participants signature list.

Provisions are in place to evaluate and revise the Emergency Response Plan after any cyanide related emergency requiring its implementation, as evidenced in the Emergency Response Plan, that states the Plan must be revised when a simulation identifies the deficiencies or when the investigation of the accident requires, ensuring that it works properly when necessary.

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

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

The operation is ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 8.1
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

AGAM (Human Resources Corporate Dept.) has two approaches/ policies for this subject. The first one is related to new employees where they receive introductory training related to cyanide (operation and handling), including cyanide hazard recognition. For veteran employees, AGAM provides annual refresh training sessions, encompassing cyanide related risks, operation with cyanide, cyanide handling, first aids related to cyanide exposure. Cyplus/ Degussa also provides, annually, cyanide related training sessions, according to the contract between the companies. The refresh training sessions were conducted by a safety technician and a doctor (labor physician).

Training records are kept by Serra Grande according to its NOSA/ SHE records management procedure, while the employee is an active worker.

Standard of Practice 8.2: Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

The operation is ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 8.2
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

According to clause 8.1, AGAM provides introductory and on the job training to all employees

that can have the potential to be exposed to cyanide. These training sessions are annually refreshed. Training materials were established in conjunction by AGAM and Cyplus, where the main aspect is the cyanide. All training sessions are provided by qualified personnel to do so (AGAM supervisors, Health representatives (doctors and nurses), Safety representatives (safety engineer and technician), and Cyplus instructors. Planned job observations are performed systematically by AGAM to verify the training effectiveness. All records have the name of the trainee, the instructor name, the date, the subject covered and the instructor perception about the trainee performance and understanding.

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:

Maintenance workers receive the same training (introductory, on the job and refreshing) as operation workers.

Decontamination procedures and first aids are included in the trainings programs. Simulation tests are performed systematically by AGAM involving their workers.

Simulation tests are performed systematically by AGAM emergency brigade. Córrego do Sítio Mine has a service contracted with a specialized company (BRIEME) for training of emergency brigade team in the conventional way and also in the simulation way.

External stakeholders are involved in the emergency training sessions, such as the state fire brigade and public/ private hospitals.

Last refresh training involving the emergency brigade and external stakeholders was conducted on 18/05/2007. Simulation tests are performed periodically in order to verify the effectiveness of the emergency response procedure and also to verify the skills of the involved people. Records are retained documenting the cyanide training, including the names of the employee and the trainer, the date of training, the topics covered, and how the employee demonstrated an understanding of the training materials.

9. DIALOGUE: Engage in public consultation and disclosure.

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 company did establish adequate communication channels with the stakeholders, such as toll free phone lines, social programs ("good neighborhood"), simulation tests and the "Portas Abertas"(Open Doors) program. AGAM (corporate) did establish a communication system with the stakeholders through a toll free number (0800-7271500), through the program "good neighborhood", newspaper, specific planned meetings with civil and military authorities, and specific planned meetings (quarterly) with the neighbors.

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:

Cyanide related procedures are available for the stakeholders (see 9.1). The company has an Environmental Education Center, which is used by the community and also two specific newspapers that are forwarded monthly and annually (respectively) for the stakeholders.

AGAM established a program entitled "open doors" where planned visits are performed for the local stakeholders such as schools, universities and the population. Besides, AGAM has a newspaper "Realce" for the internal stakeholders and the Environmental Education Center, which is opened for the public. Annually, AGAM publishes its SHE performance on a Social/ Environmental report, which is distributed for, around ,6500 persons.

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:

The company established a specific procedure to handle incidents related to cyanide (PD-A-VPOP-072(2)) and all cyanide related information is documented and available for the internal/ external public.

The company informs to the stakeholders the results of environmental monitoring testing (water and air). Any incident involving cyanide is reported.

There are no records related to cyanide-related accidents or incidents, but in the event of such situations, AGAM did establish and document which addresses all the below mentioned issues.

- a) Cyanide exposure resulting in hospitalization or fatality;
- b) Cyanide releases off the mine site requiring response or remediation;
- c) Cyanide releases on or off the mine site resulting in significant adverse effects to health or the environment;
- d) Cyanide releases on or off the mine site requiring reporting under applicable regulations;
- e) Releases that are or that cause applicable limits for cyanide to be exceeded.

Each six months, AGAM releases an Environmental Performance Report addressing the parameters related to air and water quality for the population.