

Gold Mining Operations Summary Audit Report

for

***Anglo Gold Ashanti Ltd/
Córrego do Sítio 1 Facility.***

July 2021

Prepared by NCABrasil Expert Auditors Ltd.

www.globalsheq.com

This summary audit report contains 31 pages



Rio de Janeiro, 30/May/ 2022.

SUMMARY AUDIT REPORT

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
1400 I Street, NW, Suite 550.
Washington, DC, 20005, USA.
Tel: +1-202-495-4020.

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.

Córrego do Sítio 1

Name of Mine



Signature of Lead Auditor

11/01/2022

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Name of Mine: Córrego do Sítio 1
Name of Mine Owner: Anglo Gold Ashanti Ltd.
Name of Mine Operator: Anglo Gold Ashanti Ltd.
Name of Responsible Manager: Grasyelle Maria Ferreira (Process Engineer)
Address: Fazenda Cristina s/n, Distrito de Brumal.
35960-000, Santa Bárbara, MG.
State/Province: Minas Gerais.
Country: Brasil.
Telephone: (55+31) 998 348 713
Fax: not applicable.
E-Mail: GMMFerreira@anglogoldashanti.com.br

Location detail and description of operation:

The operation is located 20Km of the Santa Bárbara town, Minas Gerais State. It is a typical open pit/ underground mine operation with a heap leach facility and a hydrometallurgical plant (CIC/ **Carbon In Column**). The operation main activities are:

1. Introduction:

The Córrego do Sítio 1 plant uses one distinct process for the production of gold, for oxide ore treatment. The heap leaching process is used to treat oxide ore. A description of the operation process is given below:

2 - Heap Leaching Process:

This encompasses the operations of crushing, leaching, adsorption, desorption, electrolysis and effluent neutralization.

3. Crushing:

The RoM ore (Run of Mine) is trucked to the metallurgical plant yard. A loader dumps the ore in a hopper, which feeds a 3 ½ "-diameter primary jaw crusher. The material is transported by conveyor belt TC-01 to the two-deck vibrating screen (Simplex), with the first deck being 1" and the second deck ¾"; the oversize returns to the hammer mill for secondary, by conveyor belt TC02, and the undersize (product of crushing) follows by conveyor belt TC-03.

After passing through the scale, but still in conveyor belt TC-03, the screw conveyor adds cement at a rate of 6 to 10 kg/t, which varies depending on the existing amount of clay/fine in the ore. The finer the ore, the more cement must be added.

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Water is added into the agglomeration drum until the material reaches approximately 15% moisture. The water with cement forms the agglomerates (ore pellets), which are arranged in heaps to facilitate the percolation of the leaching solution. No cyanide solution is added in this phase.

4. Leaching:

After agglomeration, the ore is again transported by a conveyor belt while, in an impermeable area a 20% concentration of NaCN strip solution (dye colored) is added, as the purpose of the pre-curing stage is to provide for an increased rate of gold extraction. The ore is arranged in heaps, each about 80 m long, 40 m wide, and 3 m high, stacked at an angle of repose of 38°. After the heap has been arranged, a 72-hour pre-cure interval has to elapse before the heap leaching process can start. The heap is leached by a sodium cyanide solution at 200 ppm, with an average flow of 11 l/h/m², while pH is maintained above 11. This solution is sprayed over the top of the heaps from sprinklers set up in distribution lines consisting of a 4" HDPE master pipe and 1½" PVC tubes. After leaching and percolation take place, the solution with solubilized gold drains out of the heap and is directed to the launders according to its content as described below. Launder 1: pregnant solution with an average content of 3.5 g / t; launder 2: barren solution with an average content of 0.44g/ t, and launder 3: rainwater.

5. Adsorption – Pregnant Solution:

The “pregnant” solution, or higher content solution, is directed to launder 01 and discharged into tank TQ 06; then it is pumped at a 45 m³/h flow rate and put in direct contact with activated carbon (CIC – Carbon-in-Column), in 5 columns (two circuits), each with capacity of 750 kg of carbon. The solution that feeds the columns is called ALAD (Portuguese acronym for adsorption feed) and the solution leaving the column is called SAAD (Portuguese acronym for adsorption discharge). It is important to monitor the content retained in carbon during the adsorption process. Dispersant for calcium is added into the columns feed by a measuring pump to prevent scaling of calcium carbonate on the carbon. After the solution percolates through the columns, the adsorption discharge flows by gravity into tank TQ-04 to make up with 200 ppm cyanide solution and return to the leaching heaps. Once charged, the first adsorption column carbon is transferred by an injector pump injector to a desorption (elution) column while the second column carbon is transferred to the first column and so on with the columns in series.

	
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5.1 Barren Solution:

The so called "barren solution", or low content solution, is directed to tank TQ-03 where it goes through its own adsorption column; the solution in the tank is re-circulated in the column until the carbon becomes charged; the elution of this carbon is made in elution tanks TE-01 and TE-02, and then follows the same circuit as the pregnant solution.

6. Desorption / Electrolysis:

The solution for the desorption process is prepared in desorption tank TD-02, with a concentration of 1% sodium hydroxide at 95° C; it is then pumped to elution columns TE-01 and TE-02, each one with a capacity of 1500 kg of carbon, where the deposited gold is removed and then directed by gravity to buffer tank TD-01. The solution that results from desorption (ALCU/ Portuguese acronym for elution feed) feeds the tub by gravity with average flow of 6.5 m³/h, where the gold is recovered by electro-deposition; the discharge solution (SACU/ Portuguese acronym for elution discharge) remains in a closed circuit, re-circulating through elution tank TD-02 and buffer tank TD-01, until the recovery of gold in the laden solution is completed.

7. Neutralization of effluents to be discharged:

This operation occurs during the rainy season, when the volume of tanks 03 and 05 exceed 50% of their capacity (in accordance with water balance management procedure). The tank TQ-03 solution is pumped to tank TQ-01 via TQ-02 where the following reagents are measured: hydrogen peroxide, sulfuric acid, copper sulfate and ferrous sulfate. Once neutralized, the solution is discharged after being monitored by the accountable environmental team members and after the authorization of the operation manager.

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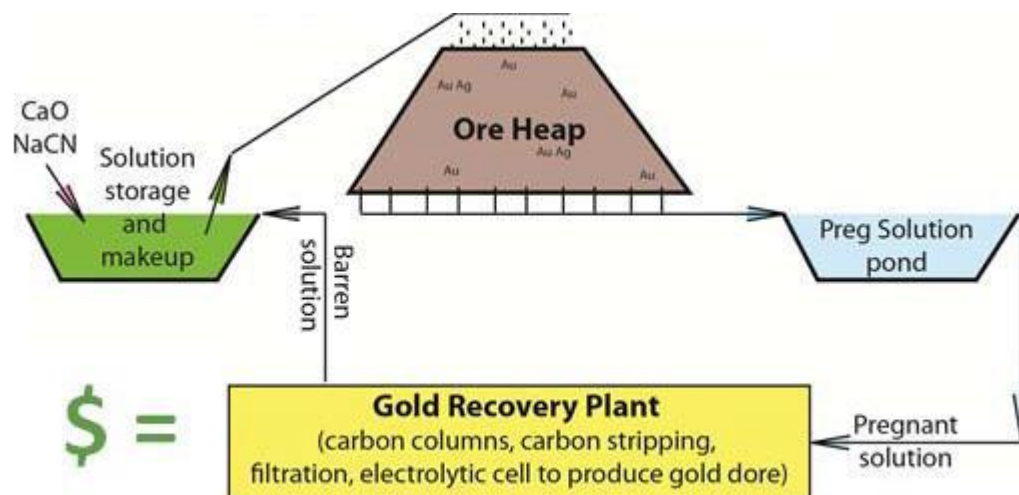


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Amuio P. R. M.

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Auditor's Finding

This operation is:

- ☒ in full compliance
☐ in substantial compliance *(see below)
☐ not in compliance

with the International Cyanide Management Code.

Being a re-certification audit, it was observed (as far as I could observe) that during the fourth certification period (2018~2021), there weren't any significant cyanide incidents requiring reporting to ICMI, or any incidents that required public disclosure or reporting under Standard of Practice 9.3.3.

- * The Corrective Action Plan to bring an operation in substantial compliance into 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: NCABrasil Expert Auditors Ltd. (www.globalsheq.com)

Audit Team Leader: Celso Sandt Pessoa

E-mail: celsopessoa@ncabrasil.com.br (ICMI qualified lead auditor and TEA, since 2006)

Names and Signatures of Other Auditors: none.

Date(s) of Audit: 12~16/July/2021 (on-site) and
29~30/September/2021 (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 **Mining Operations Verification Protocol** and using standards and accepted practices for health, safety and environmental audits.



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

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 1.1
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that the amendment to the contract # 460008580 (signed on 24/April/2018 and valid until 31/08/2021, clause # 27), signed between Anglo Gold Ashanti and AGR Pty. Australia (Australian Gold Reagents), clearly addresses that the solid cyanide to be sold to Anglo Gold Ashanti must be produced at a Cyanide Code certified solid cyanide production facility. AGR solid cyanide production plant in Australia is certified since 03/March/2005. Last recertification was on 22/September/2020 (according to information available at ICMI website).

The operation does not purchase NaCN from independent distributors.

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

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 2.1
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced, reviewing the contracts and agreements among the operation and the producer (AGR Australia Pty) and the producer with the transporters (AGR Australia Pty. supply chain and Niquini Transportes in Brazil), that general and specific responsibilities are clearly addressed on both of them. Also observed that the AGR Australia Pty. supply chain and Niquini Transportes Ltd. are certified cyanide transporters under the Code.

AGR Australia Pty. already provides the solid NaCN with dye colorant.



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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 2.2
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

As previously mentioned, the solid cyanide is transported into the operation by an ICMI certified transporter (AGR Australia Pty. supply chain (consignor) and Niquini Transportes), which have specific cyanide related emergency response plans. The solid cyanide is transported straight from the Santos port to the operation, without any interim storage or changing of transporter. The solid cyanide documentation is verified in reception control at the operation, and is fully traceable to the producer, evidencing that all transport supply chain (AGR Australia Pty. supply chain (consignor) and Niquini Transportes) are ICMI certified, according to the ICMI website information.

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

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 3.1
☐ not in compliance with

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).

The receiving, storage and preparation area remains the same since 2015. These areas were constructed in accordance with Brazilian engineering procedures as evidenced in the first certification audit. It was evidenced that these areas were adequately maintained in the last years and was found in perfect order in this opportunity. The solid NaCN storage area is well ventilated (natural ventilation). Only solid NaCN wooden boxes (the original boxes from the NaCN producer (AGR) are maintained) are stored in this warehouse, over pallets and with maximum of three boxes in each pile. In the same way, the preparation and distribution tanks are constructed inside a secondary containment (structural concrete base and walls), under a roof and with natural ventilation (fenced). The warehouse and preparation area are provided with HCN sensors. The unloading operation is performed by qualified operators. All the necessary safety procedures are documented in work instructions as well as the handling instructions. The operators have also portable HCN sensors, during the unloading and preparation activities. There are no other incompatible materials beyond sodium cyanide in these areas, as evidenced in the field audit.



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The NaCN solution preparation and distribution tanks are made of low carbon steel, with adequate wall thickness, that provides a good barrier to avoid contact with any other incompatible material, although there are no other incompatible materials beyond sodium cyanide in these areas, as previously mentioned. All evidenced in the field audit and defined at operational procedures.

The cyanide preparation tank has an HCN sensor, pH sensor and level sensor (all calibrated). After preparing, the solution is transferred to another tank, which is equipped with a calibrated level sensor. All level sensors are connected to an alarm system.

The cyanide unloading area was constructed in a restricted area (where only authorized and qualified personnel are allowed to go inside), under a roof, with a drainage system, on concreted floor, and away from surface waters and people, as evidenced during the field audit.

The warehouse and preparation area are provided with HCN sensors. The unloading operation is performed by qualified operators. All the necessary safety procedures are documented in work instructions as well as the handling instructions. The operators have also portable HCN sensors, during the unloading and preparation activities. The unloading, preparation and storage areas are naturally ventilated, and, in the event of any cyanide leakage, these areas are concreted, and the recovering of the solid cyanide is easy. The preparation and distribution tanks are inside a secondary containment. The cyanide storage area (warehouse) is isolated and apart from other storage areas and specifically assigned to store only solid cyanide. It was evidenced that they are well maintained, clearly signed, clean and ordered. Food and tobacco products are not allowed in these areas.

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 3.2
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation uses solid sodium cyanide (dye-colored briquettes) which is brought to the operation in sea containers, specifically designated for this purpose, which are returned to the cyanide producer (AGR Australia Pty) just after the unloading activity is concluded, by the cyanide transporter (Niquini Transportes). The operation's procedures for cyanide unloading and mixing activities address timely cleanup of cyanide spills, including washing the secondary containment and collecting the wash water in the drainage system for return to the cyanide preparation tank. Before departing the operation, the truck is verified to be in conformance, without any kind of leakage and completely empty and clean. The empty cyanide containers (big-bags) are washed, decontaminated, dried and sent to thermal destruction at a certified supplier. All cyanide containers are washed, decontaminated and dried in a specific installation available for this activity. After that, the decontaminated containers are sent to thermal destruction at a qualified supplier (by the Brazilian local EPA/ Environmental Protection Agency) for this kind of activity. The effluent of this activity returns to the process (pond # 5) where the potential residual cyanide is destroyed. Wooden boxes are dismantled and also sent to for thermal destruction, at the same qualified supplier. The unloading activity is performed in accordance with documented work instructions, specifically developed by the operation after identifying and evaluating the risks related to the activity.



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The risk evaluation of the activity is performed in a structured way. Cyanide boxes are piled in three (max).

All receiving and mixing procedures were verified during the field audit. A cyanide solution batch preparation was witnessed. Critical valves are clearly identified, tagged and locked. All flanges are covered in order to mitigate any potential leakage or spill. A preventive maintenance program for such critical equipment and installations is in place (refer to SoP 4.1).

The unloading activity is performed in accordance with documented work instructions, specifically developed by the operation after identifying and evaluating the risks related to the activity. The risk evaluation of the activity is performed in a structured way. The unloading operators are trained and qualified to perform that activity. Records of such trainings as well as field interviews demonstrated that the operators are prepared to perform the unloading, storage and mixing activities.

The required PPEs (personal protective equipment) for the unloading, storage and mixing activities are clearly defined in the work instructions and were evidenced to be used during the field audit. The unloading, storage and mixing activities are monitored and always performed by two operators.

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

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

The operation is: ☒ in full compliance with ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 4.1

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that the operation designed, documented, implemented and maintains a SHE management system in order to manage their SHE aspects, including cyanide. The design parameters such as freeboard, leaching flow rate, pH, CNt (total cyanide), CNf (free cyanide) and CNw (WAD (Weak Acid Dissociated) cyanide) content in process effluents, instrumentation alarm levels, tank alarm levels among others, are clearly addressed at the documented management and operational procedures and instructions. In both cases, it is clear the inspection frequencies are adequate to confirm that the operation is functioning in accordance with the design parameters.

The operation defined and implemented a site inspection program, performed on a daily basis, just after every shift change, and also a comprehensive preventive maintenance program, focused on the operation installations (pumping & piping systems, tanks, ponds and generator back-up system). During the field audit, it was evidenced that these installations are in good condition and well maintained. Also observed that the plant is dry without any kind of leakage or spill. The operation did design, document and implement a change management procedure, where a SHE risks evaluation is performed before the proposed configuration change be approved.

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The operation did develop, document and implement a specific emergency response plan considering all potential cyanide related emergency scenarios, including upset in the water balance (considering even the cessation of the operation), any deviation from design and operational criteria (e.g: pH, freeboard, leaching solution concentration and flow, among others).

Reviewed inspection records for cyanide solution preparation tank) and the cyanide solution distribution tank, both including the inspection of secondary containment and drainage system. Also reviewed the inspection records of solution ponds TQ-01 to TQ-06. During the field audit, it was evidenced that the leaching system (heap leach pads, process ponds, drainage channels) is well maintained, and the drainage system is covered with a net and in good condition. It was evidenced during the field audit that the operation installed several piezometers downgradient of the plant, in order to monitor potential seepages from the leaching installations.

Also reviewed the inspections made at process area (CIC + elution). Was evidenced, during the field audit, that the leaching system is well maintained, the drainage system is covered with a net and in good condition. The pumping system is inspected and maintained in a structured way. Was evidenced during the audit that these installations are in good shape. It was not observed any leakage at these systems and the plant was dry. Being part of the water balance monitoring system, all solution containing tanks (open water) are inspected on a daily basis, every shift turns, in order to verify the available freeboard and other aspects such as fauna fatalities and pumping system.

It was evidenced that all inspection activities are recorded, including date, shift, name of the inspector, installation being inspected, conforming/ non-conforming aspects. Any non-conforming aspects are recorded and communicated to the maintenance process in order to fix the identified non-conformity.

Was evidenced that the operation has a back-up generator (TAG # 0632-GE-01/ 440 kVA /kilo Volt - Ampère), which is maintained and tested on a weekly basis. Reviewed maintenance and testing records retained by the operation. Also evidenced the generator installation during the field audit.

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

The operation is: ☒ in full compliance with Standard of Practice 4.2
 ☐ in substantial compliance with
 ☐ not in compliance with
 ☐ not subject to

Summarize the basis for this Finding/Deficiencies Identified:

Although the operation does not add cyanide solution during the crushing (there is no milling) and having a proactive approach, it designed, documented and implemented a cyanide consumption management model in order to evaluate and determine the best cyanide consumption rate, in accordance with the mineral quality. The operation performs cyanidation tests (column leaching/ bottle leaching testing) in order to determine the best ratio between cyanide addition and gold recovery. Since 2018, the operation updated the metallurgical study in order to confirm the ratio between cyanide consumption and gold recovery. The consumption of cyanide is decreasing since 2018. The cyanide solution is applied in the beginning of the pile formation (pre-cure phase) and during the leaching process.



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The cyanide consumption is monitored on a regular basis (monthly). In the beginning of the year, the operation establishes a cyanide consumption plan where, in accordance with the mineral quality and prior tests results, the maximum cyanide consumption is defined for each month.

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

The operation is: ☒ in full compliance with ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 4.3

Summarize the basis for this Finding/Deficiencies Identified:

During 2007, the operation designed, documented and implemented a probabilistic water balance management procedure (dated 30/07/2007). Since then, the water balance management system did not suffer any major change and the management procedure remains the same. During 2018, the operation, in conjunction with an expert engineering company, reviewed its water balance model.

The water balance model considers the following premises:

- The methodology used in the definition of inflows consists of a method of transforming rainfall flow, widely used in similar studies, proposed by the Natural Resources Conservation Service (NSCR), formerly known as Soil Conservation Service (SCS);
- To apply this methodology, the hydrological model HEC-HMS – Hydrologic Modeling System, developed by the Hydrologic Engineering Center, a collegiate body of the U.S. was used. Army Corps of Engineers, version 3.5.0;
- The Intensity-Duration-Frequency (IDF) relationship/curves was obtained from the frequency analysis of the maximum annual rainfall observed in the region of the project;
- Data from the regional rainfall station “Santa Bárbara Station - Code 1943007” (Coordinates: Latitude – 19°56'43” and Longitude – 43°24'04”) was obtained from the Inventory of Pluviometric Stations of ANA – Agência Nacional de Águas (National Water Agency) (www.ana.gov.br);
- After consistency analysis and consolidation of the historical series of daily rainfall, a sample of the annual maximum of daily rainfall, taken in the hydrological year (01/October to 30/September) was obtained. Data verified since 1941. Highest value between 1941 and 2020 was 136 mm.
- 10000 years rain/ 24 hours is 274 mm.
- As recommended by CETESB/ Companhia Estadual de Saneamento Básico (1986), the 24-hour rainfall amounts are related to those of 1 day duration through a multiplier factor, which in the case of Brazil corresponds to 1.14 (since it is not always the maximum event occurring in a 24-hour interval corresponds to the value recorded in 1 day, as the readings are performed regularly at the same time);
- Considering then, the condition for decamillennial rain in 1 day (274 mm is equivalent to a depth of 274 mm/m², which corresponds to 0.24 m³). Our tanks in the rainy season are controlled below 50% and the buffer tank has a capacity of 4000m³.



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The initial probabilistic water balance study considered the rain history of the operation site and the plant was designed to support the worst storm scenario (300ml/24h). The water balance is monitored on a daily basis, considering the results obtained through six installed hydrometers (water intake), water precipitation (rain intake), evaporation rate, process solution and effluent ponds content (freeboard).

Usually, the operation operates on a closed circuit, re-circulating effluents & solutions and without direct (only in the rainy season, when necessary) or indirect discharge to surface waters. It was evidenced that the operation also monitors potential seepage down gradient of the leaching plant, through piezometers, but the monitoring results showed that there is no seepage and this aspect is not relevant to the water balance management (see 4.6 and 4.9).

The operation only discharges process effluents, after neutralization, on surface waters during the raining season, and only if necessary. (see 4.5). The obtained monitoring results are compared with that ones considered in the initial study (30/07/2007) in order to confirm that the probabilistic assumptions were correct, mainly focusing the rain precipitation (<300mm/24h). The water balance monitoring is monthly updated. Reviewed monitoring records from the last three years.

The operation considers the leaching solution rate (heap leaching process aspect) and the process effluent volumes added to the circuit. The operation works, most of the time, on a close circuit. It was observed that the operation has three process effluent ponds and three process solution ponds (process solution pond # 7 was decommissioned back in 2012), interconnected. On a daily basis, the available freeboard is monitored in order to maintain the water balance under control. The initial probabilistic water balance study considered the rain history of the operation site and the plant was designed to support the worst storm scenario (300ml/24h). On a daily basis, the rain precipitation is monitored, and results are compared to the assumed storm parameters. Related to the evaporation monitoring, the operation monitors the evaporation every day. It was evidenced that the evaporation rate is not significant to the water balance. The operation has a rainwater drainage system around the plant (HL pads) and process ponds (TQ-01 ~TQ-06), mitigating the rainwater content in the process ponds resulting from the surface run-on from the up-gradient watershed.

Freezing and thawing are not considered in the water balance management due to the weather conditions at the operation site (tropical weather, where freezing conditions are almost impossible to happen). Solution losses in addition to evaporation, such as the capacity of decant, drainage and recycling systems, allowable seepage to the subsurface, and allowable discharges to surface water are considered in the water balance management. The power outage was considered in the study, but the operation implemented a back-up generator system in order to mitigate the impact of this aspect. In this situation the production plant is maintained in the recirculation mode, without leaching at HL pads.

The operation only discharges its process effluent, after neutralization process, during the raining season (October to March), if necessary. The process effluent pond # 2 (TQ-02) is used to treat the process effluent, which is discharged at process effluent pond # 1 (TQ-01). The process effluent ponds are interconnected, and it is possible to maintain the water balance through the reduction of the leaching rate, through pumping maneuvers among the process effluent ponds (TQ-01 ~ TQ-06). The main process effluent pond is # 3 (TQ-03), and when 80% of its volume is reached, the plant begins to neutralize the effluent at process effluent pond # 2 (TQ-02) and transfer the treated/ neutralized process effluent to process effluent pond # 1 (TQ-01). If necessary, the treated/ neutralized process effluent is released to surface waters by batch. It was evidenced three releases during the last years, all in conformance with established acceptance criteria, CNf (free cyanide < 0.01mg/l at the pond # 1 (TQ-01) and < 0,005 mg/l at the mixing point at Conceição river. (refer to SoP 4.5).



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The operation inspects, on a daily basis, all the process solution/ effluent ponds. Main process solution ponds are # 3 (the biggest/ TQ-03), # 4 / (TQ-04) and # 1 (TQ-01). Freeboard for all three are calculated to be 1 meter, but there is an alarm system set at 80% of the volume, at pond # 3. Ponds # 3, # 4 and #1 are inter-connected.

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 4.4
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

It was evidenced that the operation has six process solution and effluent ponds and the ones (4 and 6 / process solutions) that have CNw (WAD cyanide/ Weak Acid Dissociated) higher than 50ppm (pregnant solution and barren solution ponds) are covered with nets in order to protect the wildlife to contact that surfaces). In the others four process effluent ponds (1,2,3 and 5), the operation ensures CNw lower than 50ppm. Beyond these controls, all the heap leaching process plant is fenced, as evidenced in the field audit. The operation defined, documented and implemented a monitoring program focused on open, surface and underground waters. Reviewed records of monitoring results performed between 2018 and 2021, related to process effluent ponds 1,3 and 5 all showing that CNw is lower than 50ppm. Process effluent pond # 2 is used to neutralize effluent coming from process effluent pond # 3 and discharged into process effluent pond # 1. The operation implemented a daily inspection system, focused on the process effluent ponds and, among other aspects that shall be inspected (available freeboard, for example), fauna mortality is verified. No cases of fauna mortality were evidenced since 2018, reinforcing that maintaining CNw lower than 50ppm is effective in preventing local fauna mortality.

The operation designed the adequate leaching piping configuration (piping matrix), composed of a main piping line of 4" and associated piping lines of 1,5". Wobbler type sprays were installed every 9 meters as well as a valve system. The maximum solution flow rate is 10 liters/hour/square meter. This configuration ensures that solution ponds will not occur (if they begin to occur, the solution flow rate is decreased) and there will not have overspray of solution off the heap liner. The wind speed is another aspect monitored by the operation, in order to ensure no overspray of the leaching solution. The heap leaching piles/ pads are monitored, from the control room, with the help of 180 degrees cameras. Confirmed during the field audit.

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 4.5
☐ not in compliance with



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Summarize the basis for this Finding/Deficiencies Identified:

During the rainy season (October to April), depending on the water balance, the operation may discharge the content of process effluent pond #1, after neutralization, on surface water. Before releasing the effluent, the operation monitors the cyanide content (CNt (total cyanide), CNw (WAD cyanide) and CNf (free cyanide)). Verified that the operation discharged the effluent to surface waters four times between 2018 and 2021. The highest CNf content, at pond # 01, was 0.005 ppm and < 0.005 ppm at the mixing point (Conceição river).

After discharging the effluent, the operation monitors the surface water quality, up and down stream of the mixing zone. Maximum CNf content was 0.005 ppm. The water is analyzed by an accredited laboratory, which is certified in accordance with ISO 17025 (as requested by the Brazilian environmental legislation) and in accordance with approved international analytical procedures.

The operation does not have indirect discharges to surface waters. The operation monitors on a regular basis, the quality of surface water just below the operation. Monitoring results showed that there is no contamination of the surface water. These monitoring results shall be communicated, on a quarterly basis, to the local Environmental Protection Agency/ EPA (FEAM). Records of these communications are kept by the operation.

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

Summarize the basis for this Finding/Deficiencies Identified:

The operation designed, documented and implemented a specific water management system (please refer to SoP 4.3) and specific design (refer to SoP 4.8/ soil compaction + geomembrane) in order to manage any potential seepage to protect the beneficial use of underground water. In order to verify the effectiveness of such operational controls, the operation designed, documented and implemented a ground water monitoring plan (REG103, dated 25/06/2020)), in accordance with the requirements addressed at its environmental permit, issued by the local EPA (FEAM/ Fundação Estadual do Meio Ambiente), the Brazilian standard NBR 15847/ 2010 and the Brazilian law CONAMA (Conselho Nacional de Meio Ambiente) 396/ 2008. The operation uses, as reference, the value of free cyanide for surface waters (< 0,022 ppm).

Beyond the water management system, the operation installed piezometers down gradient of the operation in order to monitor potential seepage and also to monitor the underground water quality. It was observed, reviewing monitoring reports between 2018 and 2021, that there is no seepage. Evidenced that the values for CNt are below 0.005 ppm.

The operation does not use mill tailings as backfill. The finished heap leaching pile, after neutralization, is disposed at a specific area, properly designed for this purpose, as observed during the field audit.

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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 ☐ not in compliance with Standard of Practice 4.7

Summarize the basis for this Finding/Deficiencies Identified:

The solid cyanide is received at a concreted area and stored inside a specific warehouse, which is locked. The preparation area is also concreted, where there is a secondary containment for the preparation and distribution tanks. The access to the preparation area is also limited to the authorized plant operators. Remains all the time locked, as evidenced during the field audit. The secondary containment volume is 110% bigger than the biggest tank inside it (for NaCN solution preparation and distribution tanks and for the adsorption and elution columns), as observed at engineering records and during the field audit. These installations are provided with a pumping system, that allows the return of any leakage back to the tanks. The pumping system was included in the preventive maintenance program (see 4.1). When the process effluent pond # 1 is full and it is not possible to re-circulate its content, then it is neutralized, monitored and then released to the Conceição river. This last procedure is not usual, and is only applicable during the rainy season, when necessary.

All process tanks have secondary containment, as observed during the field audit.

As observed during the field audit, all process solution and effluents pipelines have a secondary containment in order to prevent any leakage to impact the environment and the operators.

The operation did a risk evaluation related to cyanide solution piping. All cyanide solution pipelines are far from surface waters (Conceição river).

All the tanks are made of carbon steel and process columns are made of stainless steel.

Piping, in most of the cases are made of HDPE and also of stainless steel (smaller diameters). Reviewed engineering drawings and confirmed during field audit.

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

The operation is: ☒ in full compliance with ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 4.8

Summarize the basis for this Finding/Deficiencies Identified:

The operation didn't suffer any major change in its configuration since the certification audit. All the engineering documentation reviewed during the certification audit (2007) remains unchanged and were kept by the operation.



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During the year of 2008, the operation passed through a technical inspection, performed by a Brazilian Engineering company (HFL Engenharia). The technical inspection was leaded by Mr. Helberth Francisco Lopes, a qualified engineer in accordance with Brazilian legislation (permit CREA/MG 87071D and authorization ART 50534942), which concluded that the installations remains adequate and were constructed in accordance with acceptable engineering standards. Reviewed technical inspection report dated 03/06/2008, issued by HFL Engenharia Ltd. It was evidenced that the operation installed two new tanks at area 0695 (NaCN preparation area, tanks 0695-TQ-01 and 0695-TQ-02), as previously mentioned (refer to SoP 4.1). Reviewed QC/QA records (Gerfan Soluções Industriais Ltd databook), including:

- Dimensional inspection records # 0661 and 0662 (20/11/2017).
- Visual inspection (welding) record # 006 (08/10/2017).
- PT welding record # 0060 (08/10/2017).
- Welding process specification # 002/15 (26/06/15) and 003/15 (26/06/15).
- Welder qualification record # 008/ 15 (26/06/15).
- Usiminas Quality certificate # 4089068 (30/08/17/ steel plates, 6,30 mm, ASTM A-36)
- HDPE cladding/ quality certificate issued by Tecborr Ltd., # 1058/17 (29/06/17, acc. to ASTM D-2000).

Also evidenced that the operation installed 5 new adsorptions columns, back in 2018, which were inspected, commissioned and approved by Alexa Costa Silva/ Engineer/ CREA-MG # 194198-D/ ART # 14201800000004558393.

No news cyanide installations were evidenced during the field audit performed in 2021.

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: ☒ 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 did design, document and implement a general environmental monitoring plan as required by the local environmental protection agency. In accordance with Brazilian environmental legislation, an environmental monitoring shall be performed by certified laboratories, in accordance with ISO 17025 standard. It was evidenced that all environmental monitoring (open, surface and underground waters) are performed by an accredited laboratory which are certified in accordance with ISO 17025 by Inmetro (Brazilian accreditation agency). It was observed that the operation defined a sampling map throughout the plant, where each sampling point has an identification.

The content of CNt, CNw and CNf is always monitored, depending on the sampling point and the requirements defined at the environmental permit.

All the sampling procedures were developed by qualified laboratory personnel and all the samples are collected by these persons.

On a daily basis, during operational inspections, the monitoring is also focused on the observation of the fauna. No wildlife mortality was observed in the last three years.



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The monitoring frequency is defined by the local environmental protection agency and as required by the environmental permits. Depending on the environmental aspect, the frequencies can be daily, weekly, monthly or even once by semester. The monitoring frequencies are the same since the last recertification audit and are adequate to characterize the medium being monitored and, in the event of any changes in the environmental conditions, these changes are promptly identified.

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

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

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

Summarize the basis for this Finding/Deficiencies Identified:

The operation developed, documented and implemented a management procedure, focused on the management of the closure activities of the operation. It was evidenced that the operation updated the operation decommissioning and closure plan, which was developed by Arcadis Design & Consultancy Ltd. (report # 1.03.01.31635-FM-PL-0006(1), dated 09/October/2020, signed-off by Lucas Fonseca (CREA/SP 5062106333) and Rodrigo Santini (CREA/SP 5062055883). This updated decommissioning and closure plan was reviewed during this audit. The plan was developed and updated considering World Bank directives, ICMC (International Council for Mining and Metals) directives, ICMI directives and Brazilian legislation (COPAM (Conselho Estadual de Política Ambiental) # 127/08, decree # 9406/2018, the Mining Code and law 14066/2020/ TSF (Tailings Storage Facility) safety policies) and NRM 20 directives.

The mentioned decommissioning and closure plan, clearly describes the schedule to be followed during the decommissioning and closure activities, including the procedures to be followed to neutralize the cyanide circuit installations before dismantling them. Basically, the same procedure used to neutralize cyanide installations before maintenance activities, using peroxide solution, will be used to neutralize cyanide installations before decommissioning and dismantling them and also environmental monitoring activities that shall be performed after the operation closure. The operation is planned to be closed-out in 2042. In the event of any remaining solid NaCN boxes, these ones will be transferred to another Anglo Gold Ashanti operations in Brazil.

In accordance with internal management procedures, the decommissioning and closure plan shall be reviewed and updated every three years. Reviewed plan was updated in October 2020.

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 5.2
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The mentioned conceptual decommissioning and closure plan mentioned at SoP 5.1, addresses the estimate costs (reclamation costs) to implement the plan by a third part, according to 2021 values that are projected to 2042 values and calculated year by year. Every year, these costs are updated.

The Brazilian Mining Legislation does not demand or establish any financial mechanism to be followed by the operation. The operation implemented a self-guarantee mechanism. Beyond this mechanism, the operation has also insurance certificates related to the operational risks.

Annually the operation has its financial health audited by independent third-party auditors. The financial audit was carried out in accordance with International Financial Report Standards (IRFS), which are acceptable either in Brazil and internationally. The financial audit report clearly states that the operation has enough financial health to fund the implementation of the decommissioning and closure plan. The financial audit report was distributed to external stakeholders such as banks, Brazilian stock exchange chamber, Brazilian Public Financial authorities.

The financial audit report related to the financial year of 2020 was concluded on 23/ April/ 2021. The independent financial auditor concluded that the Corporation has financial strength to implement the defined closure plan. Ernst & Young is an accredited financial auditing institution (accreditation # CRC-2SP0151199/O-6), according to the Brazilian Financial legislation. The audit was led by Mr. Tomas Menezes, a certified financial auditor (register # CRC-1MG090648/O-0), according to the Brazilian Financial legislation.

It is also available at www.anglogoldashanti.com, for public consultation.

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

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 6.1
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation identified and evaluated all the SHE risks associated with the cyanide and, in order to have the risks under control and mitigated, the operation defined, documented and implemented specific operational and management procedures for cyanide related activities. The risk identification and evaluation process are performed in a structured way and involves different stakeholders. The development of work instructions is performed in conjunction by these stakeholders (operators, supervisors, managers and SHE professionals).



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The required PPEs for each activity (unloading, leaching, maintenance, neutralization, work at confined spaces) are defined and addressed in the documented work instructions, as well as pre-work inspections. In order to maintain the risk evaluation updated and, in consequence, the work instructions, the operations established a procedure to update them if any circumstance has changed or, at least, every two years. This procedure is part of the annual refreshing program for supervisors and operators. The high strength NaCN solution is dyed for clear identification in case of any leakage, as previously mentioned.

The operation defined and implemented a procedure (critical work permit), where all cyanide installations and equipment shall be neutralized before any maintenance activity. The procedure consists firstly in washing the equipment/ installation with a peroxide solution and after that a continuous rinsing with water. The maintenance technicians are only authorized to perform their work after this procedure and that there are no traces of cyanide in the equipment/ installation. This procedure is performed by the process operators and approved by the process supervisor. Records of such work permits were evidenced during the audit.

According to Brazilian Occupational Safety Standard NR-33 (confined space management), the operation identified all confined space existing at areas 0638 and 0635 (process plant/ preparation) and retains a "confined spaces master list", updated in November 2020.

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 6.2
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation determined that the minimum pH value shall be equal or greater than 10.5 (process solutions) and > 11.5 (strong NaCN solution). The noted minimum pH values are targeted to limit the evolution of hydrogen cyanide gas during mixing and production activities.

The pH is effectively controlled and monitored (through calibrated pHmeters) in the operation. Alarm systems are in place. Verified, during the field audit, that the usual pH value is around 12 (distribution tank). The pH is controlled through the addition of caustic soda.

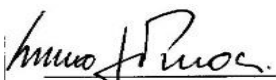
The operation has fixed calibrated HCN detectors in the cyanide preparation and distribution tanking area and the operators also use portable calibrated HCN detectors. Both cases evidenced in the field audit.

Alarm level is set for 2.5 ppm (alarm 1) and 4.5 ppm (alarm 2/ to leave the area) HCN. The fix and portable HCN detectors, are maintained and calibrated in accordance with a calibration management system, by the detectors manufacturers. Reviewed calibration records of all HCN detectors.

It was evidenced during the field audit, that the operation premises (cyanide circuit) are richly signed, including the prohibition of drinking, eating and smoking in these areas.

All cyanide related safety signage was evidenced at solid NaCN storage warehouse, at NaCN solution preparation and distribution tanks, at heap leach pads area, at process ponds area, at adsorption and elution area and at electrolytic cells area.

Auxiliary emergency installations/ equipment such as low-pressure eye-washers and showers, fire extinguishers, were evidenced in the operation premises. Some of these auxiliary installations were tested during the audit and worked well.



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The operation has also implemented a system to manage all the fire extinguishers available at the plant. There are two types (CO₂ for electrical installations and dry powder for the other ones) of fire extinguishers, identified through a specific number and the maintenance seals and stickers. It was evidenced the fire extinguishers master list, which is used to support the maintenance frequency, all managed by the Occupational Safety process. All the fire extinguishers management process was reviewed and approved by the local Military Firefighters Corp of Minas Gerais State (24/08/2020).

Operators are always wearing the defined PPE to work in the process plant, including semi-facial masks with appropriate filter. At the preparation area, both operators are using complete PPE defined to the activity, including overall type A, full-face masks, with positive air flow (main operator) and full-face mask with appropriate filter for the observer (second operator). If the 4.5 ppm HCN alarm sounds, they must leave the area, and the emergency response team will be activated.

Anyhow, the operation strictly controls the pH in all cyanide containing tanks in order to prevent the generation of HCN. During the field audit, it was not evidenced any case where HCN content was greater than 0 ppm, confirming the effectiveness of the defined operational control.

Also evidenced that the operation implemented a fire extinguisher (CO₂ (non-acidic) and dry powder ones) management system, in order to maintain this auxiliary equipment under good operational condition. It was evidenced, during the field audit, that the operation installations (tanks, piping, valves, pumps, ponds) are in good shape, the tanks and piping are adequately painted and signed, and the cyanide flow identified. NaCN MSDS is also available (in Portuguese) at different places in the plant. It was evidenced that the operation has defined and implemented procedures to evaluate SHE incidents (real and potential). No cyanide related incidents occurred in the plant, during the last three years, confirming that the cyanide management is effective.

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

The operation is: ☒ in full compliance with ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 6.3

Summarize the basis for this Finding/Deficiencies Identified:

The operation has developed emergency procedures for those activities at the leaching plant and has an emergency care center (with medical assistance 24h per day), fully equipped with a resuscitator, one ambulance at the site and a second one available at Córrego do Sítio 2 facility, antidote kits (cyanokit), telephone, radio, oxygen cylinders. These facilities were evidenced in the field audit. All the first aid equipments are effectively inspected by the local nurses, including the ambulance (which is ready to be used and was tested during the audit).

Evidenced the inspection records. The antidotes are stored under controlled conditions. Only the medical staff is allowed to apply the antidotes to the intoxicated persons. The operation qualified the local hospital (Nossa Senhora das Mercês and Barão de Cocais Municipality hospital) as a complementary resource in the event of cyanide related emergencies (for low or medium complexity cases). For high complexity cases, the reference hospitals are the João XXIII at Belo Horizonte town and Nossa Senhora das Dores at Itabira town.



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The transportation procedures between the operation and the local hospitals are tested. It was evidenced that cyanide related emergency drills are effectively performed by the operation, including and involving the local Hospital team in the exercises and/ or workshops. Evidenced 2019, 2020 and 2021 annual emergency drill and workshop plan and related records.

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

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 7.1
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation defined, documented and implemented procedures to respond to cyanide related emergencies. Evidenced Cyanide Response Plan, PN-0134(17), encompassing cyanide emergency scenarios related to transport, unloading, operations and emergency brigade management. The plan clearly addresses the required resources, PPEs, communication channels and telephones (including AGR Australia Pty. and Niquini Transportes ones) as well as the specific procedures for each identified scenario. The above-mentioned emergency plans describe specifically the response for all cyanide related emergencies such as catastrophic release of hydrogen cyanide from storage or process facilities, transportation accidents, releases during unloading and mixing, releases during fires and explosions, pipes, valves and tanks ruptures, overtopping of ponds and impoundments, power outages and pump failures, uncontrolled seepage, failure of cyanide treatment, destruction or recovery systems, failure of heap leach facilities and other cyanide facilities

Cyanide related emergencies responses during external transportation to the operation are covered by the plan, in connection with the NaCN producer (AGR Australia Pty., international shipment) and NaCN transporter (Niquini Transportes, inside Brazil) ones, both ICMI (International Cyanide Management Institute) certified, and the operation, that will have a support role in this scenario. The internal NaCN transportation is also covered by these emergency plan. The plans are specific to NaCN transportation by truck (transporting original sea containers) and to the specified route between the Santos Port and the operation.

The emergency plans clearly address specific responses related to clearing site personnel and potentially affected communities from exposure area, use of antidotes and first aid protocols, control of releases at source, and containment, assessment, mitigation and future prevention of releases, considering internal and external stakeholders. It was observed that, in the last three years, no cyanide related emergencies occurred in the operation and also in the cyanide transportation to the operation, demonstrating that the cyanide management in the operation is effective.



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

The operation is: ☒ 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:

The emergency response plans were developed based on the risk evaluation performed by representatives of each individual process (process plant, safety coordination, environmental coordination, health coordination, among others) and was reviewed and approved by the occupational safety and health manager of the operation. The emergency plans were internally communicated to the involved workforce through training sessions, including emergency drills. It was observed that before performing planned emergency drills, the operation performs specific meetings with the stakeholders (internal and external ones) in order to review the emergency plans and plan the emergency drill. Focusing the external stakeholders, the operation communicates and discuss, during specific planned meetings, the emergency plan with community representatives and also during the emergency drill planning meeting. The cyanide supplier, the cyanide transporter, the local hospital, the local police and firefighters, the emergency response suppliers are involved in the emergency planning, being directly communicated about their roles in an emergency involving cyanide and also participating in the emergency drill planning. Records of such meetings are kept by the operation and were reviewed during this audit.

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 defined, documented and implemented procedures to respond to cyanide related emergencies. Evidenced Cyanide related emergency plan (PN-0134(17)) Responsibilities and authorities are clearly defined and communicated to all involved stakeholders (internal and external). The emergency response brigade members are voluntary and passed through a selection process (medical, theoretical and practical), to be assigned as a brigade member. The brigade members were trained and qualified before being assigned as emergency brigade members. The emergency committee organizational flowchart was also evidenced. The emergency brigade master list addresses all the necessary information about the brigade members, including contact details of internal and external stakeholders. Emergency coordinators were defined and refreshed trained annually during the planned drills and specifically in the emergency response plans.

The emergency response plans identify the required resources (hardware) that are necessary to each situation. The basic emergency response hardware is consisted of two ambulances ((one at the site and the second one available at Córrego do Sítio 2 facility), basic life support configuration, complete equipped, daily tested and ready to be used,), auxiliary equipment (PPEs) for the brigade members, such as chemical/flame resistant overall, chemical gloves, oxygen masks and cylinders, chemical masks.



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The AGR Australia Pty.'s emergency plan covers that situation outside the operation (during international transportation), in conjunction with Niquini Transportes (transport inside Brazil), both ICMI certified stakeholders.

The emergency response hardware is monthly inspected by the safety and health officers of the operation. The ambulances are daily inspected and tested. Records of such inspections were evidenced and found in place.

The emergency response plan was reviewed, approved and communicated to several stakeholders (internal and external), including security and health authorities, public authorities, emergency response suppliers, community representatives. When performing emergency drills, the operation invites specific stakeholders to participate in the drills or workshops. After the drills, a specific meeting involving all participants (internal and external) is conducted in order to review the emergency drill results and, when necessary, to improve the emergency plan. Records of these meeting are maintained by the operation and were reviewed during this audit. Last cyanide related emergency drill was performed in October 2020. Another implemented control is to perform periodic meetings with stakeholders, in order to discuss and updated (if necessary) the emergency response plan. Records of such meeting are maintained by the operation and were reviewed in this opportunity. The operation emergency plan was found at revision # 17, demonstrating that the operation maintains the plan under continuous improvement.

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 7.4

Summarize the basis for this Finding/Deficiencies Identified:

The emergency response plan was reviewed, approved and communicated to several stakeholders (internal and external), including security and health authorities, public authorities, emergency response suppliers, community representatives. When performing emergency drills, the operation invites specific stakeholders to participate in the drills. Another implemented control, is to perform periodic meetings with stakeholders, in order to discuss and updated (if necessary) the emergency response plan. The emergency communication loop is clearly defined and also contact information is available in the plan. Communication procedures with external media were found in place.

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with
☐ not in compliance with

Standard of Practice 7.5



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Summarize the basis for this Finding/Deficiencies Identified:

The operation defined, documented and implemented procedures to respond to cyanide related emergencies. Evidenced Cyanide Emergency Plan (PN-0134(17)). Responsibilities and authorities are clearly defined and communicated to all involved stakeholders (internal and external).

The emergency committee organizational flowchart was also evidenced.

Solid briquettes are recovered with the aid of cleaning devices and disposed into plastic bags (returned to plant and disposed into cyanide solution tanks).

The soil shall be neutralized with the aid of specific chemicals products such as hydrogen peroxide solution, MgO solution (to control pH) or soda solution and disposed back in the heap leaching pile.

The operation will neutralize cyanide-contaminated soil until the soil is free of cyanide. It was not evidenced, during the field audit, any unprotected area that could be impacted by solid NaCN or NaCN strong solution.

Cyanide solutions are recovered with the aid of specific pumps and returned to the process tanks.

Surface waters are monitored, and no chemical products are allowed to neutralize the surface water.

The operation has the responsibility (shared with the public authorities) to manage and provide drinking water to the affected stakeholders, in the event of any cyanide related emergencies into water supply resources (rivers).

The plan clearly defines the required monitoring procedures to be implemented in the event of soil and water potential contamination. An environmental monitoring plan is addressed at the emergency response plan.

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

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

Summarize the basis for this Finding/Deficiencies Identified:

The operation defined, documented and implemented procedures to respond to cyanide related emergencies. Evidenced Cyanide Emergency Plan (PN-0134(17)). The emergency response plan was reviewed, approved and communicated to several stakeholders (internal and external), including security and health authorities, public authorities, emergency response suppliers, community representatives. When performing emergency drills, the operation invites specific stakeholders to participate in the drills. Another implemented control is to perform periodic meetings with stakeholders, in order to discuss and updated (if necessary) the emergency response plan. The emergency communication loop is clearly defined and also contact information is available in the plan.

The plan is, at least, reviewed every two years (or before, depending on the results of the simulation exercises).

Evidenced the 2019, 2020 and 2021 Annual Emergency Drill plan. Evidenced two emergencies drills performed since 2018, involving HCN intoxication during cyanide solution preparation and a workshop (October 2019) between the operation medical team and the local hospitals medical teams. The 2018 drill was an integrated one (environmental, health and safety). Reviewed the report dated 26/12/2018. Opportunities of improvement (corrective and preventive were identified and implemented).



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Reviewed the internal drill report performed on 30/10/2020 (during NaCN solution preparation). Opportunities of improvement were identified and implemented.

After each emergency drill, the drill results are reviewed and discussed among the participants. The opportunities of improvement raise-up during the drill are considered as corrective or preventive actions and managed adequately, resulting in the updating of the emergency response plan. Reports related to the drills and their review were found in place.

The Cyanide Emergency Response Plan (PN-0134(17)) was updated five times in the last three years as a result of such reviews, performed after the drills or after the workshop. In the event of any emergency related to cyanide, after the emergency is controlled and concluded, the operation defined a protocol to review the cyanide related emergency, identify the lessons learned with the emergency, define and implement corrective and preventive actions and update the emergency response plan. As previously mentioned, there were no cyanide related emergencies/ incidents in the last three years.

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:

The operation did design, document and implement an introductory training program which is applied to all new employees and contractors coming to work in the operation. This introductory training programs scope is focused on general aspects of sodium cyanide, cyanide related risks, emergency situations related to cyanide and first aid procedures related to cyanide exposures.

The operation implemented a refresh training program, which is applied for all employees and contractors every three years. The content of the cyanide refresh training program is the same one of the introductory training.

Both introductory training program and refresh training program records are kept by the operation. Reviewed records related to initial and refresh trainings performed during 2019, 2020 and 2021. The training record is an assistance list with the date, instructor name, attendees name and signatures, training content and general perception about the attendees made by the instructor. During the field audit, it was evidenced that the employees are aware about the cyanide related risks.

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



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Summarize the basis for this Finding/Deficiencies Identified:

After the introductory training, all employees that will work directly with cyanide (operators, laboratory technicians, maintenance technicians, drivers) will pass through an "on the job training" which consists basically on the training in operational procedures and emergency procedures (40 hours). These operational training is provided by the operation supervisors and process engineers. After the on the job training, the employees will work under supervision during 45 days. After that, the employee is qualified (or not) to work alone.

The operational on the job training consists basically on the operational and emergency procedures. The training is divided in theory and practice. All the operational aspects are clearly identified in the training materials. Reviewed on the job training program for plant operators, plant maintenance technicians and laboratory technicians.

Operational training is provided by supervisors and process engineers, during 40 hours. The on-the-job training is divided in several topics (depending on the function). Only after the trainee is approved in a specific topic, he is allowed to move forward to another topic. After 40 hours of operational training (theory and practice), the trainee will work, during 45 days, under supervision. In the ending of this period, the trainee is qualified (or not) to work in the operation. Records of such operational on the job training are kept by the operation, at the Human Resources process.

All employees that work directly with cyanide are recycled in cyanide management every three years (refresh training program).

The operation verifies the effectiveness of the provided training (refresh one too) through testing and planned job observations. Records of refresh trainings, tests and job observations are maintained. All the training related records address the trainee's names, the instructor name, the training scope, the training date and the instructor's comments about the performance of the trainees.

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


The operation is: ☒ in full compliance with Standard of Practice 8.3
 ☐ in substantial compliance with
 ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

All the plant personnel were trained in cyanide related emergencies. Annually, the employees are re-trained (refresh) in these procedures. Records of such training were evidenced.

The emergency response brigade members are voluntary and passed through a selection process (medical, theoretical and practical), to be assigned as a brigade member. The brigade members were trained and qualified before being assigned as emergency brigade members. Decontamination and first aid procedures are included in the emergency training scope.

All members were trained in the emergency procedure PN-0134 (16). Last performed training was in February 2020. Before the emergency drill exercises, the emergency plan that will be simulated is again, reviewed and discussed among the participants. Records of such briefing meetings were reviewed. As previously mentioned, (see Principle 7), the operation planned and implemented an emergency response exercise calendar.

		
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The performance of the emergency responders is observed and reported. In the event of any identified opportunity of improvement, corrective and/ or preventive actions are defined and implemented, including the revision of the emergency plan (PN-0134(17) was found at revision 17), which means that it was updated seventeen times since its creation.

The operation retains all training records (e.g- attendance list) related to cyanide training, which includes the trainee's name, the trainer name (usually a process supervisor or a professional safety engineer or military firefighter), the training scope, the final score of the trainee (after a test or a PJO (planned job observation) or an emergency drill) and the general overview of the trainer about the trainees performance. If a training session results in a qualification, a certificate is issued by the responsible stakeholder (internal or external).

9. DIALOGUE: Engage in public consultation and disclosure.

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

The operation is: ☒ in full compliance with
☐ 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 stakeholders to communicate issues of concern regarding the management of cyanide through a direct telephone line (0800 7271500). This telephone line is communicated to the stakeholders through newspaper, radio advertisement, leaflets and magnets distributed during specific and programmed meetings with stakeholders.

All callings are recorded by the operation. It was evidenced that this communication channel is used by the stakeholders, but none of the reviewed records was related to cyanide concerns. The operation also designed and implemented a communication program with all the communities potentially affected by the operation aspects, based on specific and planned meetings. This program is called "Boa Vizinhança (Good Neighborhood)", where the operation and communities representatives discuss several matters, such as environmental monitoring results, cyanide management, among other subjects. Records of such meetings are maintained by the operation and were reviewed during the audit.

Stakeholders also can communicate with the operation through specific email address (comunicacao@anglogoldashanti.com.br) which is communicated to the public (internal and external) through the corporate newspaper "Boa Vizinhança" and the magazine "Sintonia". The magazine SINTONIA is published quarterly, addressing contact information. Another opportunity to internal stakeholders to communicate points of concerns related to cyanide management is through the daily safety dialogues and also through email.



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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 9.2
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation implemented and maintains communication channels with stakeholders (internal & external) in order to dialogue with them. The “Boa Vizinhaça” program is consisted by programmed meetings with the community representatives, where several matters are discussed. Another program is related to the environmental monitoring with the representatives of surrounding communities. Monitoring results (surface waters and air quality) are documented and communicated in the meetings with the community (Boa Vizinhaça). The operation also distributes a specifically designed newspapers “Boa Vizinhaça” and “Da Hora” and the magazine “Sintonia”. The operation contact information is available in all these types of media.

Another opportunity to dialogue with stakeholders, is through programmed meetings with these stakeholders. Records of such meetings are kept by the operation. Finally, the operation training programs, focused on cyanide management, are also used to dialogue with internal stakeholders (employees and contractors).

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

The operation is: ☒ in full compliance with
☐ in substantial compliance with Standard of Practice 9.3
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation designed, documented and made available a specific video presentation describing how the cyanide is managed, and relevant information related to cyanide emergencies. This presentation is available for everybody that comes to visit or work at the operation.

The newspapers “Da Hora” and “Boa Vizinhaça”, also addresses, on a regular basis, relevant information related to cyanide management, since the production until the destruction of the cyanide. All environmental monitoring results (surface waters and air quality) are documented in booklets and distributed to the communities’ representatives and also to public authorities (quarterly reports).

Although the local population, in most of the cases, is not illiterate, the operation disseminated, in verbal or visual form, information related to cyanide management at the operation (meetings with community representatives).

As previously mentioned, there were not any cyanide related incident at the operation or during the transportation. In the event of any type of incident, the operation implemented several communication channels, in order to attend public consultation.



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The following contact information is available to the general public:

0800-7271500 (corporate communication)

0800-7038422 (denounces)

(55+31) 3832-9999 (operation)

Email: comunicacao@anglogoldashanti.com.br (corporate communication).

The operation will also make information related to cyanide incidents public, through the corporate communication process, through press releases. It was evidenced that the corporate communication process documented and implemented communication procedures with the media (newspaper and television). There is a specific communication protocol addressed at the operation crisis management plan.

Although no cyanide related incidents had happen at the operation in the last three years, in the event of such incidents, the operation, according to the directions addressed at its Crisis Management Plan, will make the information public through the Corporate Communication Process, linked with the Crisis Management Committee. Beyond communicating with the media (television, newspaper, Instagram, Facebook and other public media), it is mandatory the operation to communicate public authorities. Such public authorities make such news available to the general public through their websites.



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