

**SUMMARY AUDIT REPORT**

***Gold Mining Operations  
Summary Audit Report***

*for*

***Kinross Brasil Mineração S.A.***

***Morro do Ouro Mining***

***2018***

***Prepared by Ferreira & Cerqueira Ltda.***

# 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:

**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.

Kinross Brasil  
Name of Mine

  
Signature of Lead Auditor

03/06/2018  
Date

## SUMMARY AUDIT REPORT

Name of Mine: Kinross Brasil Ltda.

Name of Mine Owner: Kinross Gold Inc.

Name of Mine Operator: Morro do Ouro Mining.

Name of Responsible Manager: Marcos Morais

Address: Rodovia BR 040 km 35,5 Zona Rural Morro do Ouro Paracatú, Minas Gerais

State/Province: Minas Gerais Country: Brasil

Telephone: +55 38 2 9242400

e-mail: marcos.morais@kinross.com

Location detail and description of operation:

The Kinross Morro do Ouro mine is an open-pit gold mine, located approximately 4 kilometers outside of Paracatu City - Minas Gerais State - Brazil. The mine currently produces a low grade ore (0.4 g/t) with production of about 15 tonnes of gold annually (2016). In 2017 the mine processed 37,623,397 tons of ore. This number was lower than expected due to the fact that Plant 2 was shutdown for roughly 4 months due to water curtailment. The licensing expansion of the Gold Hill Mine included increasing its production capacity to 61 million tons / year in addition to the construction of the new dam for tailings disposal called Eustáquio. The Process Plant is distributed in the different plants and production stages:

### **Plant 1**

#### **Concentrate Leaching Plant (PLC):**

The Plant 1 processing circuit has two (2) sets of two (2) crushers in series for a total of four (4) crushers. The primary crusher is a hammer mill and the secondary crusher is a cone crusher. The comminution stage contains four (4) 4.6m x 5.8m ball mills in parallel. The product from the ball mills is classified as underflow (coarse) and overflow (fine). Underflow material is returned to the circuit with the four (4) ball mills as well as a fifth ball mill (5m x 7.6m). The overflow material continues on to a flotation concentration stage.

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The flotation process contains a rougher stage and a cleaner stage. The flotation concentrate is then pumped to the hydrometallurgy plant. The rougher concentrate from the first cell of each line feeds the new gravity circuit, which is consisted by 1 Knelson QS48 and is installed in the Hydrometallurgy plant. In the hydrometallurgy plant, the flotation concentrate is reground to 90% passing 325 meshes prior to leaching. The concentrate is then leached in a cyanide solution, adsorbed using activated carbon, stripped and fused into bars (bullion) containing gold, silver and impurities in the smelting.

### Plant 2

The Plant 2 process begins with the crusher circuit. The primary crusher is a MMD-type roll crusher located in the pit. A conveyor (TCLD) transports the sized material to a covered stockpile.

Six (6) feeders at the bottom of the stockpile feed a conveyor transporting the material to an 11.6 m semi-autogenous grinding (SAG) mill.

The SAG mill product is pumped to two (2) 7.3 m x 12 m ball mills and two (2) 7.9m x 12,8m ball mills. The oversize material can be recirculated to the SAG for reprocessing or also directed to Plant 1 crusher via the new pebbles conveyor installed in 2017. After the ball mills, the pulp is classified in hydro-cyclones, with the fine material going to the flotation circuit and the coarse material being sent back to the ball mills or to the SAG.

The flotation circuit contains six (4) lines operating in parallel with six flotation cells and two other cleaner lines.

The rougher concentrate from the first cell of each line feeds the new gravity circuit, which is consisted by 3 Knelson QS48 installed at Plant 2 and one new Acacia, installed in the Hydrometallurgy plant.

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The concentrates from the flotation is pumped to a verti-mill for regrinding to 90% passing 325 mesh. The verti-mill concentrate is screened sending the fines to the thickener and the coarser material is recycled back to the verti-mill.

The water removed in the thickener is returned to the milling circuit and the pulp is pumped to the hydrometallurgy plant.

A Knelson centrifuge concentrator was installed to extract Au in the circulating load. The Knelson produces a high grade gold concentrate. This concentrate is processed in an intense leaching (Acacia) system.

In the hydrometallurgy plant, a concentrate of 90% passing 325 mesh is leached in a cyanide solution, adsorbed using activated carbon, stripped and fused into bars (bullion) containing gold, silver and impurities in the foundry.

## The Hydrometallurgy Plant

### 1 - Introduction

The Hydrometallurgy process is divided into two separate plants: Hydro 2, Hydro 3 and are related to the concentrate feeding Plant I and II, respectively.

The Hydro II receives the flotation concentrate from Plant I, which is directed to the steps of regrind and thickening.

The regrind aims to reduce the particle size parameter to 90% passing #325 in (0.044 mm) and the thickening of the pulp value for 38 to 42% solids.

In Hydro III, concentrate flotation plant II passes through the steps of regrind and thickening still in Plant II.

For both Hydros, the following steps are leaching, Acid Wash and elution, Carbon Regeneration and Detox. The Detox step is common for the two Hydros.

There is also the XD30 Knelson process in Hydro 2, which concentrate is treated at the Acacia Hydro II.

### 2 - Leaching; Adsorption and Desorption

In Hydrometallurgy Kinross Paracatu is by CIL system (Carbon in Leaching). The first tank circuit is used to prepare pulp (adjust pH and oxygenation). In the second tank circuit added cyanide (34% solution). The function is to make the cyanide leaching of gold according to the expected reaction.

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For the adsorption of gold, carbon added in the last tank of the CIL circuit and the carbon is pumped in counter-current to the pulp flow. Thus the production of carbon or direction for the elution occurs in the second tank of the circuit.

After the activated carbon has adsorbed the gold in the CIL leaching circuit, it needs to be desorbed to recover the gold adsorbed. Prior to gold desorption, the carbon is prepared with an acid washing using a dilute hydrochloric acid solution to remove impurities carried CIL leaching process.

The washed carbon then passes through a stripping column where gold is desorbed and the resulting pregnant solution is pumped to electrowinning for recovery of the final gold.

To reuse the activated carbon in the circuit, the regeneration of the carbon is performed, thereby increasing the activity of the carbon and also adding fresh carbon to CIL regularly.

### 3 - DETOX

The Detox is the stage where the neutralization of cyanide using Ammonium Bisulfite is held. At this stage, the bisulfite flow is made according to the WAD cyanide content in the entry Detox to evaluate the efficiency of output of this process and the specific tank. The control is done to have a concentration of WAD CN in the specific tank (CIL tails pond) lower than 50 ppm. The specific tanks are tanks with a rubber lining in the bottom to avoid any contact with the ground.

### 4 - LEACHING

#### 4.1.1 - Cyanide Addition control in the first CIL tanks

There is an interlock between pH and 25TQ502/25TQ207 tank (second tank circuit CIL) with the addition of cyanide. If the pH reaches less than 9.8 cyanide dosing pump off, being able to restart only when the pH reaches a level higher than 9.8.

#### 4.1.2 - TAC

The unit has a tank with two probes in the leaching of Hydro II and III, cyanide control is performed in the first and last CIL tanks.

The unit has an automatic control for the cyanide dosage and regular dosage of this function in process output, avoiding waste.

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## 4.1.3 - pH meters and oximeters

The pH measuring instruments and oximeters present in the early tanks and at the end of the process, in order to ensure maximum efficiency and reduce consumption of consumables. All measurements are performed online and available to the Supervisory Hydro II and III Hydro.

The lime and oxygen flow rates are also controlled automatically according to the set point required concentration.

## 4.1.4 - Calibration / Verification Instruments

Calibration / measuring instruments is carried out every week. This is performed using the appropriated measuring equipment by the Technological Development Department personnel and checked at the Chemical Laboratory. If any anomaly is detected or sudden change happens in the measuring instrumentation a specifically intervention is requested.

## 4.1.5 - Daily Control Inputs

Every day the consumption of raw materials is checked. If a problem is identified, immediate actions are taken.

## 4.2 - DETOX

### 4.2.1 - Adding Ammonium bisulfite

The dosages of ammonium bisulfite and tank level are monitored directly on the control panel by monitoring.

Daily evaluate the function in dosage efficiency of Cn WAD levels at the feed and tails of the process.

## 5 - New Projects

- New Smelting Furnace: The new furnace is expected to be installed in the Gold Room in 2018 in order to reduce smelting costs and increase the quality of the gold bars (increase precious metal content).

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Carbon Fines Ashing Furnace: the main goal is to reduce costs of reprocessing this residues in external refineries, processing them at site with lower costs and higher efficiency.

## 6 - Business Process Management

The Business Process Management is a methodology used to ensure performance in input variables before the output processes variables are affected, to increase the whole process efficiency

- To implement this methodology, the following steps are used:
- General mapping of processes;
- Definition of control parameters and the specific correlation among the variables;
- Definition of controlled and monitored variables;
- Control System Implementation at the company Intranet (for automation) - controls charts; the system Summary; Manuals entries spread sheets.
- Staff training (Practical and Theoretical);
- Phase final tests and adjustments.
- Overall start up.

Minera Florida



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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.

During the previous three years certification cycle, Morro do Ouro. did not experience any significant cyanide related incidents nor any compliance problems related to cyanide management.

\* 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: Ferreira & Cerqueira Ltda.

Audit Team Leader: Luiz Eduardo Ferreira

E-mail: luizeferreira2015@gmail.com (ICMI qualified lead auditor and TEA)

Names and Signatures of Other Auditors: none

Date(s) of Audit: 05~ 09/03/2018 (on-site) 08 ~10/05/2018(on-site)  
02~ 03/06/2018 (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.

Minera Florida  
Name of Mine



\_\_\_\_\_  
Signature of Lead Auditor

15/03/2015  
Date

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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:*

Evidenced that Kinross only used cyanide manufactured by Proquigel Química S.A. in the last three years. Proquigel Química is a Brazilian company that has two facilities at Camaçari and Candeias cities both at the State of Bahia which produce solid and liquid cyanide. Evidenced contracts between on one hand, as seller Proquigel, and, on the other hand, as buyer, Kinross for the article sodium cyanide which states that all sodium cyanide provided by Proquigel must be produced in a facility having a current certification under the International Cyanide Management Code.

The sodium cyanide used by Kinross is produced by Proquigel (Camaçari and Candeias ) facilities at State of Bahia, Brazil. Both of them are certified by Cyanide Code according to the information available in the ICMI website.. The operation does not acquire solid cyanide from 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



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

The agreements among the operation, the cyanide producer (Proquigel) and the cyanide transporter (Transportes Concórdia) were reviewed and evidenced to be within required by the Cyanide

Evidenced that packaging responsibilities are defined and documented in accordance with international and Brazilian legal road transportation requirements.

The cargo labeling is done in English and in Portuguese, in accordance with the Brazilian road transport legislation.

Kinross reported that will include this requirement ( 2.1.1c) prior to that date in the next contract agreement.

There is no temporary storage of cyanide before shipping to Kinross

Evaluation and selection of routes, including community involvement are clearly defined

The cyanide is transported by truck (road transportation), straight from the Proquigel plants at State of Bahia directly to Kinross Paracatú at state of Minas Gerais

The transport to the operation responsibilities are clearly defined in purchase contracts

The unloading at the operation responsibilities are clearly defined in purchase contracts

Safety and maintenance of the means of transportation throughout transport responsibilities are clearly defined in purchase contracts

Task and safety training for transporters and handlers throughout transport responsibilities are clearly defined in purchase contracts.

Security throughout transport responsibilities are clearly defined in purchase contracts

Emergency response throughout transport responsibilities are clearly defined in purchase contracts

The written agreement, as previously mentioned, addresses all the responsibilities and authorities including the extension to subcontractors, although neither the producer/ transporter are allowed by the operation to subcontract anybody without prior acceptance by the operation. The operation maintains a system to monitor the contracts with the producer and the transporter

Both producer and transporter are certified under the Cyanide Code.

*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  not in compliance with Standard of Practice 2.2

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

As previously mentioned and evidenced, the contract between the operation and the producer and the transporter clearly addresses the requirement that the transporter must be certified by ICMI. The cyanide transporter, Transportes Concordia is certified by ICMI, as evidenced at the ICMI website.

Kinross established an incoming inspection control in order to verify the cyanide related documentation (from origin until the operation) in the reception of cyanide. Evidenced several incoming inspection records that were performed during last three years duly established and maintained.  
All transport supply chain (Transportes Concordia) is ICMI certified according to the ICMI website.

**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).**

Kinross designed and constructed facilities for unloading, storing and mixing cyanide in accordance with cyanide producers guidelines and Brazilian engineering requirements. Several project documentation ( as built drawings) and data sheet specification were reviewed and showed that the facilities were designed to be in accordance with legal requirements

Receiving and storage areas were evidenced, in the field audit, to have concreted floor, bricked walls, metallic roof, doors with locks, adequate ventilation, HCN sensors, fire sensors and alarm.

During the audit in the field it was evidenced that unloading and storage areas for solid and liquid cyanide are located away from other people of the plant. The access to the process plant is controlled. All doors are locked. The unloading, storage and preparation areas are far from surface waters. During the unloading, storage and preparation activities only authorized operators are allowed to circulate in these areas. Evidenced duly implemented as required

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The area has a concrete floor constructed in accordance with Brazilian legal requirements. It is far from surface waters and has appropriate drainage system. In the case of occurrence an incident involving liquid or solid cyanide release in this area, the product is easily recovered by using environmental kits. It was not evidenced incident reports in the last three years

Alarms are monitored by the supervisory system of the room operation of hydrometallurgy plant

During the field audit noted that cyanide mixing and storage tanks were built on concrete surface A spill containment pound built under it in case of Emergency

Evidenced during the field audit and reviewing engineering documentation that the containment pounds are constructed on concrete and HDPE, according to specific international and Brazilian standards offering an effective barrier to seepage.

Evidenced that Kinross has been stored sodium cyanide in specific warehouses, in a well-ventilated area. HCN detectors and alarm systems are in place as evidenced in the field audit. Evidenced that Kinross has been storing sodium cyanide in their original boxes, over pallets, on concreted floor, under roof, with adequate ventilation as evidenced in the field audit.

Kinross has been controlling to access the process plant and the warehouse. The warehouse is inside a closed area by chains at all times and the gates are locked. During field audit observed that only authorized and qualified operators are allowed to access these áreas.

The cyanide storage area is isolated and apart from other storage areas and specifically assigned to store on sodium cyanide. It was evidenced that they are well maintained, clearly signed, clean and ordered. Food and tobacco products are not allowed in these areas. No incompatible materials such as acids, strong oxidizers and explosives are allowed to be stored in cyanide storage area. During the audit in the field, all this information was found implemented as stated.

*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

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

The empty cyanide containers (big-bags) are washed , decontaminated and dried and sent to final destination ( co processing destruction) in accordance Brazilian regulations. Kinross does not use cyanide drums.

The cyanide boxes do not return to the supplier ( Proquigel ); All the boxes are sent to co-processing

Evidenced that Kinross defined, documented and implemented a procedure to unload the cyanide during the reception. The operators are trained and qualified in this procedure. Records of such training activities and the field audit evidenced that the operational procedure clearly addresses the steps to be followed and the activity is fully monitored. During the audit in the field was evidenced the implementation, as required.

The cyanide big-bags are handled with the help of lifting devices, in a specific area designed for this purpose. The lifting device is included in a preventive maintenance program. Records of its maintenance were evidenced During the audit in the field was evidenced implementation, as required. Cyanide boxes are piled in three (max)

In the event of any real spills, the operational procedure covers the neutralization and cleaning of the spills, which is forced to the drainage system. It was not evidenced any kind of spills (solution or solid cyanide) during the field audit


A qualified operator, using appropriate PPE (including calibrated HCN detectors), is observed full time by a second operator that remains in a safe area. This practice was evidenced in the field audit. Related to addition of colorant dye to solid cyanide to or at the point of mixing in the solution this item will become auditable as of July1, 2019 and Kinross reported that it is encouraged to adopt this practice ( 3.2.2f) before this date.

#### ***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 Standard of Practice 4.1  
 not in compliance with

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

Evidenced that Kinross established, implemented and maintained internal documented procedures defining methodology for cyanide facilities including unloading, mixing and storage facilities, leach plants operations which were found in conformance with an safety operation..

Evidenced that Kinross established, implemented and maintained internal documented procedures which identify the assumptions and parameters on which the facility design was based and any applicable regulatory requirements. The old tailings dam, named Santo Antonio is out of use. The tailing dam named Eustáquio is in operation since the last three years. The as built drawings of Eustaquio tailings dam were reviewed and showed that they are in accordance international and Brazilian regulations. Verified that procedures were in place and that are effective to prevent cyanide releases and exposures consistent with applicable requirements

Evidenced that Kinross Florida established, implemented and maintained internal documented procedures which describe the standard practices necessary for the safe and environmentally sound operation including the specific measures needed for compliance with the Code, such as inspections and preventive maintenance activities. They were verified and found in place and effective.

Evidenced that Kinross defined and documented an internal documented procedure PSSMA – CN – KBM – 081 – “ Gerenciamento da mudança” to identify when changes in a site's processes or operating practices may increase the potential for the release of cyanide and to incorporate the necessary release prevention measures. This procedure use one specific annex as PSSMA – FORM – KBM – 068 for recording all treatment related to management on change. Several of these records were reviewed and demonstrated the practiced methodology was found in place and effective.

Evidenced that Kinross implemented a cyanide management contingency procedure for situations when there is an upset in a facility's water balance, when inspections and monitoring identify a deviation from design or standard operating procedures, and/or when a temporary closure or cessation of operations may be necessary. Were reviewed procedures SSMA – PRO – 077 – “ Gestão de emergência”, SSMA – PRO – 077-AN01- “ Vazamento de cianeto”, SSMA – PRO – 077-AN36- “ Inspeção de válvula de emergência”, SSMA-PRO-157-AN15- “ Vazamento de solução cianetada”. Procedures consider the temporary closure or cessation of operations.

Evidenced that Kinross inspect cyanide facilities on an established frequency, according internal documented procedures, sufficient to assure and document that they are functioning within design parameters criteria.

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Internal documented procedures establish methodology for this matter. Sampled examples were: PROC-PRO-158-“ Gestão de cianeto”, PROC-PRO-158-AN02-“Inspeção de tanque específico”, PROC-PRO-158-AN03- “ Inspeção em bacia de contenção, PROC-PRO-158-AN04-“ Inspeção em tubulação”, PROC-PRO-158-AN05-“ Inspeção em equipamento”, PROC-PRO-158-AN06-“ Comissionamento de tubulação de polpa concentrada”; Verified records of such the inspections and maintenance and found effective:

Evidenced that Kinross inspect tanks holding cyanide solutions for structural integrity and signs of corrosion and leakage. Records of such inspections were found effective. During the field audit evidenced the adequacy of all mentioned tanks

Verified that Kinross inspect Secondary containments for their integrity, the presence of fluids and their available capacity, and to ensure that any drains are closed and, if necessary, locked, to prevent accidental releases to the environment The inspections also consider the presence of fluids and the available capacity of the secondary containments. Records of such inspection were reviewed and noted that inspections of secondary containments, drainage system and locks were duly performed as stated. During the field audit observed that all secondary containments were dry

Evidenced that Kinross inspect leak detection and collection systems at leach pads and ponds, as required in the design documents. During field audit noted that all the installations are well maintained.

Evidenced that Kinross inspect pipelines, pumps and valves for deterioration and leakage. During field audit noted that pipelines, pumps and valves are well maintained.

Evidenced that Kinross inspect pounds and impoundments for the parameters identified as critical to prevent leak and maintenance of the water balance. Records of inspection of specific tank # 12 were assessed and showed in accordance with the requirements. During the field audit noted that pounds and impoundments are well maintained..

Evidenced that the inspections are documented, including the date of the inspection, the name of the inspector, and the observed deficiencies as well as the pertinent records have been retained as stated. Evidenced that preventive maintenance programs are implemented and activities are documented to ensure that equipment and devices function as necessary for safe cyanide management. They prescribe the specific nature and frequency of preventive maintenance activities. Sampled examples were: Corporate Kinross Maintenance Plan, Electrical Inspection Plan, Mechanical Inspection Plan, Pipeline inspection, Tanks inspection. Preventive maintenance records were reviewed and provided evidences that Kinross has been performing preventive maintenance as stated. During field audit noted that all the installations are well maintained.

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Evidenced that Kinross has an emergency power resources to operate pumps and other equipment to prevent unintentional releases and exposures in the event its primary source of power is interrupted. There is a back up power generation equipment within a maintenance program and tests. Weekly tests are performed.

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

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

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

Evidenced that Kinross conduct a program to determine appropriate cyanide addition rates in the Mill and evaluate and adjust addition rates as necessary. Cyanidization tests are usually performed in order to identify opportunities to reduce the cyanide consumption. Observed that Kinross has an effective controls of cyanide addition based on gold concentrations. There is a pH control duly implemented with maintenance of pH between 10.2 and 10.5. There is too an automatic control for the cyanide dosage avoiding waste. Kinross constantly control the cyanide additions by formal procedures. Noted that Kinross practices daily monitoring of the consumption of cyanide

*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 Standard of Practice 4.3  
 not in compliance with

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

Kinross developed a comprehensive, probabilistic water balance which noted that is duly implemented. Sampled examples were: Site Water Balance Report / Eustáquio tailings Storage Facility / KPB-72-G!-Q-052-RT containing mine description, water balance model methodology, water balance model inputs and criteria, climatic hydrological parameters, station date, precipitation, temperature, evaporation,

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infiltration, hydrological parameters, operation parameters ( process plants, TSF, TSF water storage design criteria, downstream drainages and wells, water balance results, the analysis and results were based on historical climatic/hydrological records, probabilistic methods and water management strategy and operational philosophy of mine The water balance considers the solution addition in the system and the effluent rate at Eustaquio tailings dams.

*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:*

Evidenced that Kinross do not present open water with WAD cyanide exceeding 50mg/l, according the monitoring audited. Special measure (fencing) was implemented to restrict access by wildlife. Evidenced that the records of monitoring presented by Kinross demonstrate that the cyanide concentration in open water in TSFs does not exceed 50 mg/l WAD cyanide. There is no register of wildlife mortality since the last audit. Kinross does not have leach pads

*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

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

Kinross does not have any direct discharge solutions containing cyanide to surface water. All processed effluents are stored at the TSF after passing the specific tank. Kinross does not have any direct discharge solutions containing cyanide to surface water. All processed effluents are stored at the TSF and returns to the process. Kinross does not have an indirect discharge to surface water. . Records of surface water from 2015 to 2018 were assessed and showed results of concentration of free cyanide bellow this level.During the audit there was not evidence indicating indirect discharge from Kinross have caused any concentration in surface waters. Kinross does not have any record of indirect discharge to surface water.

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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:*

Evidenced that the secondary containment are covered by a HDPE, and all pipelines are within areas with secondary containment. The monitoring performed by Kinross indicates that there is not any contamination of ground water caused by any type cyanide (total, wad or free). There is no standard in Brazil for ground water. Kinross does not have underground operations. Evidenced that there is no record of seepage from the operation that has caused cyanide concentrations of ground water to rise above levels protective of beneficial use.

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:*

Evidenced that the cyanide unloading, storage, mixing and process solution tanks are provided with spill prevention and containment measures, such as secondary containment and impermeable varnish. Evidenced that according the designs all cyanide unloading, storage, mixing and process tanks contain secondary containment sized to hold a volume 150% greater than that of the largest tank within the containment and any piping draining back to the tank, and with additional capacity for the design storm event. There are procedure in place and being implemented to prevent discharge to the environment of any cyanide solution. There is a pumping system that is used to pump any effluent or after a rain that is contained in the secondary containments. All the effluent is pumped back to the process

Kinross does not have process tanks without secondary containment. During the field audit evidenced that all cyanide process solution pipelines are provided with spill prevention to collect leaks and prevent releases to the environment as well as none

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areas where cyanide pipelines present a risk to surface water. All pipelines are within controlled areas, by secondary containment and that all cyanide tanks are made of carbon steel ASTM A-36 and pipelines are made of carbon steel ASTM 53B and ANSI B36.10 or HDPE being constructed of materials compatible with cyanide and high pH conditions

*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 Standard of Practice 4.8  
 not in compliance with

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

Evidenced that Kinross conducted quality control and quality assurance programs for new and existing cyanide facilities and modifications. Engineering Manual KRP-02-GG-501-G-001-ME was reviewed and several pertinent drawings. Evidenced that construction of cyanide facilities and modifications were duly implemented as stated. Verified that Kinross developed a quality control and quality assurance programs addressed the suitability of materials and adequacy of soil compaction (STP – Standard Penetration Test). Evidenced duly implemented. Kinross retains all records of quality control and quality assurance for cyanide facilities. Evidenced that appropriately qualified personnel reviewed cyanide facility construction and provided documentation that the facility has been built as proposed and approved. Verified the capacitations records of engineering personnel involved. quality control, quality assurance or as built drawings are available for all parts of the facility using cyanide.

*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

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

Evidenced that Kinross defined and documented procedures for monitoring activities. Sampled example was: Internal documented procedure PSSMA – CN-KBM-039 – “Environmental Monitoring” which defines sampling points, parameters to be monitoring, frequency, analytical procedures, legal requirements and programs to evaluate the effects of cyanide use in wildlife surface and ground water quality. which includes *wildlife, surface and ground water quality. It was noted that they are implemented as stated.* all sampling and analytical protocols have been developed by Kinross chemicals lab in accordance with AWWA – Standards Methods for the Examination of Water and Wastewater. Evidenced that PSSMA – CN-KBM-058. specifies how and where samples should be taken, describe the sample preservation techniques, describe the chain of custody and cyanide species to be analyzed..It was noted that it is duly implemented in accordance with AWWA methodology. reviewed records of sampling conditions (weather, livestock/wildlife activity, anthropogenic influences) and procedures documented in writing by the Kinross in accordance with AWWA;. Evidenced that Kinross does not direct or indirect discharges process water to surface water. There is a monitoring program in the surface and ground water down gradient of the site. Evidenced duly implemented. Evidenced that Kinross inspect for and record wildlife mortalities related to contact with and ingestion of cyanide solutions and until this time there is no register of mortality; Evidenced that the monitoring is conducted at frequencies adequate to characterize the medium being monitored and to identify changes in a timely manner. Evidenced duly implemented in accordance Brazilian regulation laws.

**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

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*Summarize the basis for this Finding/Deficiencias Identifie*

Kinross established, implemented and maintained documented procedures MID-PRO-138 “Mine Closure Plan”, PAFEN – “Plano Conceitual de Fechamento da Mina Morro do Ouro and PRAD – “Plano de Recuperação de Área Degradada”; The decommissioning procedures includes the decontamination of equipment, the removal of residual cyanide reagents and others activities related. Besides, the KDL – “Kinross Decommissioning Liability” was reviewed. The above-mentioned procedures to decommission cyanide facilities include a schedule for carrying out its proposed activities; this schedule show the order in which the planned activities will be conducted Kinross updates its plans with sufficient frequency to reflect changes in the operation as they affect decommissioning, as well as changes in planned decommissioning techniques and measures. Evidenced that the actual decommissioning plan is being updated as stated

*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/Deficiencias Identified:*

Kinross develop an estimate of cost to fully fund third party implementation of cyanide related decommissioning measures as identified in SBP – Strategic Business Planning and in KDL – Kinross Decommissioning Liability which include adequate funds for cyanide-related decommissioning activities. Kinross updates its plans and cost estimate with sufficient frequency to reflect changes in the operation as they affect decommissioning, as well as changes in planned decommissioning techniques and measures. The legal requirement DN COPAM 127/2008 requires financial mechanisms to be follow by Kinross which implemented a self-guarantee mechanism. Evidenced an independent qualified audit report # RA.011.300/2018 dated on February 23, 2018, 2017 issued by LCC Auditores e Consultores. The financial audit was performed in accordance Brazilian and international laws of financial reports (IFRS) issued by International Accounting Standards Board (IASB). Item 12 of the above mentioned financial audit report considers provision for mine decommissioning. Evidenced that Kinross has sufficient financial strength to fulfill this obligation as demonstrated by an accepted financial evaluation methodology established self-guarantee as a financial assurance mechanism based on requirements set forth in chapter 40, section 264 of the U.S.– 40 CFR 264. The financial audit report is signed by LCC Auditores Independentes CRC nº 2SP029650/0-4 AND BY Marcello Lopes dos santos CRC 1SP188429/0-2 S-MG.

**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

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

Evidenced that Kinross established, implemented and maintained internal documented procedures which clearly defines methodology for unloading, mixing, plant operations, entry into confined spaces, and equipment decontamination prior to maintenance in such manner that minimize worker exposure. Evidenced that Kinross established, implemented and maintained internal documented procedures which clearly defines the use of personal protective equipment and address pre-work inspections. Observed internal documented procedures that Kinross established, implemented and maintained internal documented procedure, which were developed by the work force (operators & supervisors) and approved by the responsible manager. All operators and supervisors have been trained in the pertinent operational procedures and, at least, annually (as a refreshment), the work force review the risk profile, the operational procedures and, when necessary, these ones are updated. Planned job observations are also part of the operation management system. Sampled examples were: PROC-PRO-020 – “ Confined spaces”, PSSMA – FORM-KBM-098- “ Descontaminação de equipamentos” , PROC – PRO—083 - Manutenção e calibração”, PAMR3232 – “Rotas de manutenção”.The above mentioned documented procedures were reviewed during the audit and was noted that they were duly implemented.

*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:*

Kinross defined and documented that the minimum pH value shall be equal or greater than 12. During the field audit and reviewing pertinent records noted that the pH have been effectively controlled and monitored (through calibrated pH meter) in the operation. Alarm systems are in place. Additionally, during the field audit, noted that the usual pH value is around 12.The pH is controlled through the online addition of soda solution using a calibrated flow meter.Observed that fix and portable hydrogen cyanide monitoring equipment are maintained and calibrated in accordance with a calibration management system, Calibration records are retained for at least one year.

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Evidenced that Kinross has fixed HCN detectors in the tank leaching area and the operators use portable calibrated HCN detectors. Both cases were evidenced in the field audit. Alarm level is set for 4ppm HCN. Reviewing pertinent records evidences were provided that the parameters have been maintained as stated (below exposition limits). In the event of alarm situation (4 ppm HCN), the operators are ordered to leave the area, only returning when allowed by the supervision, after technical checking. Also observed that all the operators use adequate personal protective equipment. Kinross has fixed calibrated HCN detectors in the tank leaching area and the operator also use portable calibrated HCN detectors. Both cases evidenced in the field audit. Beyond these controls, all the operators use adequate personal protective equipment. Reviewing pertinent records evidences were provided that the parameters have been maintained as stated. Evidenced during the field audit that the signage is effective, covering the presence of cyanide, that eating, drinking and smoking is not allowed and also open flames are prohibited. Noted that all the required auxiliary installations( showers, low-pressure eye wash stations and dry powder or non-acidic sodium bi-carbonate) were evidenced to be in place and operational. They were tested during the field audit and worked properly. The operation has also implemented a system to manage all the fire extinguishers available at the plant. Inspection records of such equipments provided evidences that they have been adequately maintained. During the field audit evidenced that all cyanide tanks and piping are clearly painted, identified and the flow direction clearly showed, as evidenced in the field audit. Evidenced that Kinross implemented an emergency program inside the plant where all cyanide related information is available in Portuguese. This emergency program includes the safety information related to cyanide (FISPQ), first aid procedure, alarm systems. Kinross has defined and documented procedure - to investigate and evaluate any kind of incidents or accidents. Up to now, any cyanide related incident/ accident has occurred..

*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 Standard of Practice 6.3  
 not in compliance with

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

Evidenced internal documented procedure PSSMA-PLAN-KBM-010 – “ Flowchart of cyanide poisoning” which clearly identifies the infrastructure necessary to allow the primary care of patients. Found that this procedure was implemented as required. It was shown during the audit in the field that Kinross has an emergency office, a health care center equipped with emergency showers, , fully equipped with water, a resuscitator, three ambulances, antidote kits, oxygen cylinders, self-contained breathing equipment , alarm system and many communication channels such as telephone Care Center, cell phone, radio channel, specific care center e-mail. Kinross has an Emergency communication diagram documented . The emergency team monitor the cyanide solution preparation. Evidenced that Kinross established several internal documented procedure related to inspection of all its first equipment and materials. Evidenced that Kinross clearly identifies the procedures to respond to cyanide exposure defining: Protection measures in first aid, first aid with conscious vitim, first aid treatment unconscious victim breathing, first aid treatment unconscious victim not breathing, medical treatment, first aid for contact with skin and eyes. Evidenced that Kinross has an emergency facility, fully equipped with oxygen, antidotes, first aid procedures, telephone, filters, masks. Evidenced that Kinross has two doctors (one coordinator and one assistance), five work nurses and one nurse. which are in place. Both installations and personnel were evidenced during the field audit. It was noted that responsibilities and authorities of the medicals and nurses are defined and documented in PSSMA-PRO-077 – “ Gestão de acidentados”. Verified that internal documented procedure PSSMA-PRO-077 – “ Gestão de acidentados” clearly identifies the methodology for the transfer of patients exposed to cyanide to locally available qualified off site medical facilities. Kinross has three ambulances. The competencies to drive the ambulance are defined in accordance with Brazilian legislation and it was noted that is duly implemented as required. The transportation procedures are tested, at least, once a year. Kinross has formalized agreements with Hospital Municipal de Paracatú and Hospital São Lucas which have trained doctors to work in case of emergency with cyanide. Kinross has formalized agreements with Hospital Municipal de Paracatú and Hospital São Lucas which have trained doctors to work in case of emergency with cyanide. Evidenced internal documented procedure SSMA-PRO-077-AN29- “ Cronograma de Treinamentos e Simulados” which establishes that mock emergency drill shall be conducted in accordance with the frequency previously defined and documented. During the field audit evidenced antidote kits duly maintained and inspected composed by sodium nitrite, sodium thiosulphate and methylene blue

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During the field audit evidenced that cyanide antidote is duly stored as directed by their manufacturer and replaced on a schedule to ensure that it will be effective when needed. Noted that inspections have been performed and recorded as stated and that the antidote is in the date of validity and duly maintained. Verified and reviewed the Annual Emergency Mock Plan for 2016, 2017 and 2018. Noted that they define: Type of incident or accident to be tested, date to be performed and emergency procedure to be tested. Evidenced that they were performed as stated and that involved the locals hospitals in the exercises. Evidenced that Kinross medical personnel, Hospital Municipal medical personnel, Hospital São Lucas medical personnel, Kinross nurse personnel and emergency response team members were duly trained in administering antidote kits in accordance with Brazilian legislations

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

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

in full compliance with

The operation is

in substantial compliance with Standard of Practice 7.1

not in compliance with

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

Evidenced that Kinross implemented procedures to respond to cyanide related emergencies. Reviewed PAE-SSMA-PRO-157-“Emergency General Plan”, SSMA-PRO-077-“Emergency Management”, SSMA-PRO-077-AN01-“Sodium cyanide leakage”, SSMA-PRO-077-AN04-“Leakage Specific Tank” SSMA-PRO-077-AN08-“ Incident during cyanide transportation” encompassing cyanide emergency scenarios related to transport, unloading and operations. This document clearly addresses the required resources, PPEs, communication channels and telephones (including Proquigel) as well as the specific procedures for each identified scenario such as above mentioned. The above mentioned Plans are in accordance Brazilian regulations such as “ Decreto Estadual 44270”, “Lei 14130” and “IT11 CBMG”; Kinross has an integrated drainage system, with emergency pools, beyond the secondary containment of the cyanide tanks area. The warehouses are provided with humidity and HCN detectors and alarm systems. The plan is shared with Proquigel (cyanide producer) and Transportes Concordia (cyanide transporter), both ICMI certified suppliers, for emergencies related to external cyanide transportation activities. Also addresses the responses related to internal cyanide transportation activities. Kinross has an integrated drainage system, with emergency pools, beyond the secondary containment of the cyanide tanks area.

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Evidenced in place, procedures related to valve maneuvers in the event of such situations as well as any issues related to water balance – SSMA-PRO-077-AN01. The secondary containment burst scenario is covered in the emergency response plan - SSMA-PRO-157AN33. The operation has an effective generator backup system.- SSMA-PRO-077-AN01. The operation has an integrated drainage system, with emergency pools, beyond the secondary containment of the cyanide tanks area- SSMA-PRO-077-AN01

The plan covers any unusual situation with the INCO facility Emergency procedure - SSMA-PRO-077-AN01. The secondary containment burst scenario is covered in the emergency response plan. The emergency plan was entirely reviewed about its completeness. The plan was implemented, in that possible situations, through the mock drill plan. It was evidenced also in place the emergency response plan prepared by Kinross. Evidenced that are defined and documented cyanide related emergencies responses during external transportation to Kinross which are shared by the NaCN producer (Proquigel) and NaCN transporter (Concordia), both ICMI certified, and the operation, that will have a support role in this scenario - SSMA-PRO-077-AN08-“ Incident during cyanide transportation” and Concordia Emergency Plan. Verified that the internal NaCN transportation is also covered by Kinross emergency plan.

Evidenced that the emergency plans clearly addresses specific responses to that situations, considering internal and external stakeholders including security and health authorities.

*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:*

Evidenced that PAE-SSMA-PRO-157-“Emergency General Plan”, SSMA-PRO-077-“Emergency Management and Concordia Emergency Plan were reviewed, approved and communicated to several stakeholders (internal and external), including security and health authorities (local hospitals), public authorities, emergency response supplier (Proquigel), Paracatú, 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)

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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:*

Evidenced that Kinross defined, documented and implemented procedures to respond to cyanide related emergencies. Evidenced Cyanide related emergency plans such as PAE-SSMA-PRO-157-“Emergency General Plan”, SSMA-PRO-077-“Emergency Management”, SSMA-PRO-077-AN01-“Sodium cyanide leakage”, SSMA-PRO-077-AN04-“Leakage Specific Tank” SSMA-PRO-077-AN08-“ Incident during cyanide transportation” and Concordia Emergency Plan. Responsibilities and authorities are clearly defined and communicated to all involved stakeholders (internal and external). The emergency committee organizational flowchart was 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. The emergency brigade master list addresses all the necessary information about the brigade members, including contact details of internal and external stakeholders. The emergency brigade organizational flowchart clearly defines the role of each member. The emergency response plans identify the required resources (hardware) that are necessary to each situation. The basic emergency response hardware is consisted of ambulances(complete equipped) , auxiliary equipment (PPEs) for the brigade members, such as chemical/flame resistant overall, chemical gloves, oxygen masks and cylinders, chemical masks. The Proquigel emergency plan covers that situations outside the operation (during transportation), in conjunction with Concordia Transportes, both ICMI certified.The emergency response hardware is monthly inspected by the safety officers of the operation. Records of such inspections were evidenced and found in place. Evidenced that the emergency response plans were 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. Basically, the external emergency

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responders are involved in road control the transport and reception of intoxicated people (Hospital Municipal de Paracatú e hospital São Lucas) cyanide supplier (Proquigel), Cyanide transporter (Concordia).

*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 Standard of Practice 7.4  
 not in compliance with

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

Evidenced that contact information for notifying management, regulatory agencies, outside response providers as well as medical facilities of the cyanide emergency is defined and documented. Sampled example was "Emergency Phone Numbers" which includes for instance the following phone numbers: Brigade Emergency Members, leaders, managers, general manager, public authorities, hospitals, cyanide supplier (Proquigel), cyanide transporter (Concordia), regulatory agencies.

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 (crisis management).

*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 Standard of Practice 7.5  
 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. Emergency Plans define the pertinent responsibilities and authorities, which are communicated to all involved stakeholders (internal and external). They clearly define recovery or neutralization of solutions or solids, the decontamination of soils or other contaminated media, provision of an alternate drinking water supply, clearly state that these chemicals are not allowed to be used in surface water treatment as well as define 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.

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

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

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

Evidenced that Kinross defined and documented Emergency Response Plans. Sampled examples were: PAE-SSMA-PRO-157-“Emergency General Plan”, SSMA-PRO-077-“Emergency Management which include the following emergency scenarios associated with sodium cyanide: PAE-SSMA-PRO-157AN15 – “Leakage of cyanided solution”, PAE-SSMA-PRO-157AN11- “Contamination and intoxication by cyanide”; Cyanide spill in a dry place; Cyanide spill in place with water (rain or humid environment); Cyanide solution spill out of the sump; Generation of cyanide gas; Contact with pulp or cyanide solution; Fire during storage cyanide. The emergency response plans were 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. Evidenced that Kinross review and evaluated the cyanide related elements of its Emergency response Plan at least annually. Evidenced the 2016 Emergency Drill Plan and 2017 Emergency Drill Plan and 2018 Emergency Drill Plan. Evidenced that Kinross has been performed mock emergency drills as required in the pertinent Emergency Drill Plans. Evidenced that Kinross evaluates after each emergency drill, the drill results. They are reviewed and discussed among the participants and when necessary, the opportunities of improvement raise-up during the drill are considered as corrective or preventive actions and managed adequately. Reports related to the drills and their reviewed were found in place. The records of the four-simulated reported in item 7.6.2 were duly evaluated and the pertinent actions to be done were defined, documented and implemented.

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

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

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

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

Evidenced that Kinross defined and documented procedures RH-PRO-161 and RH-PRO-142 which define methodology for planning, performing, recording and evaluating effectiveness of training all personnel who may encounter cyanide hazard recognition the cyanide materials present at the operation, the health effects of cyanide, symptoms of cyanide exposure, and procedures to follow in the event of exposure. The material used for this purpose includes all items described above. It is also used materials supplied by Proquigel. During audit in the field it became clear that all personnel who may encounter cyanide in cyanide hazard recognition as required.

Verified the training programs “ 2018 Training Needs, 2017 Training Needs and 2016 training Needs. Training. for any direct personal or indirectly involved with risks related to cyanide. It was noted that the refresher training is considered. Verified pertinent records duly retained. During field audit evidenced that Kinross trained all personnel who may encounter cyanide in cyanide hazard recognition. It was noted that the refresher training is performed annually.

*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:*

Verified that trainings are divided by position and its duration is controlled by procedures such as RH-PRO-161 and RH-PRO-142 related to process plant, maintenance, and to laboratory. Interviews with workers to perform their normal production tasks, including unloading, mixing, production and maintenance as well as reviews of training records provided evidences that the mentioned above procedures are implemented as stated. Evidenced that the training elements necessary for each job involving cyanide management are identified in training materials. Evidenced that internal documented procedures RH-PRO-161 and RH-PRO-142 ensure that all instructor will be qualified by Kinross. The training records were reviewed and it was noted that the trainers were qualified as required. All instructors were trained in andragogical teaching techniques and complies with the code requirements. Evidenced through interviews with field and supervisory personnel and reviewing training records that all new or transferred employees received their task training before being allowed to work with cyanide in an unsupervised manner. There is refresher training on cyanide management provided to ensure that employees continue to perform their jobs in a safe and environmentally protective manner. The procedure “RH-PRO-161 state that all employees be refresh annually. Records were reviewed and found in place.

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Evidenced that Kinross evaluate the effectiveness of cyanide training by testing and observation, as checked in evaluation records which should be applied three months after training. In case of low evaluation result, the employee should be trained again, restarting the entire process. Evidenced duly implemented. Kinross keeps training records including employee and trainer names, topics covered and test records. During field was shown the proper understanding of the issues related to training conducted

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

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

Evidenced that plant operators and maintenance employees have collaborated to elaborate the Emergency Plan. Was reviewed the operation's training program, internal documented procedures and plans related to training of workers and personnel which need to respond to workers exposures and environmental releases of cyanide to determine how the operation's response program is structured. Records of training were verified and it was evidenced that pertinent employees (all have been trained in the operation's response procedures as required). The workers that may be the first on the scene of a cyanide exposure have been trained in cyanide decontamination and first aid procedures as well as that all personnel that may be expected to provide such a response have been taken part in routine response drills to ensure they are able to perform these tasks if and when required. Training records for rescue team and first aid were found, including plant operators and maintenance employees. They take part in routine drills to test and improve their response skills, records were found. Evidenced through interviews with Coordinators and members of the Emergency Response Team that they are familiar with their response roles as described in the Emergency Response Plan and other applicable emergency response procedures, as well as with the use of the necessary response equipment. Records of training in the Emergency Response Plan regarding cyanide were assessed and found to be as stated. Verified evidences of communication with community members, medical providers, hospital, and police officer, about the elements of the Emergency Response Plan related to cyanide, duly implemented. Verified the records of refresher training related to all employees with designated roles or responsibilities in the event of a cyanide exposure and releases have been conducted annually as stated.

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Evidenced that Kinross uses mock emergency drills to evaluate its response plans and procedures and that mock drills have been used as training tools for designated responders. These mock drills cover the work exposures and environmental releases. Reviewing training records noted that the evaluation of drills considers the adequacy of training. When applicable, training procedures have been revised in response to the outcome of a drill. Verified records 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.*

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:*

Kinross provide the opportunity for stakeholders to communicate issues of concern regarding the management of cyanide with a way of making their concerns with the use of cyanide known to the operation through a program called "Integrar and Visit Program Inside Kinross. Besides it is available others channel communications such as Kinross web site, "Fale conosco", toll free phone 08000381051, Kinross Newspaper, On line newspaper, Internal Communication Committee., What's up wuth all employees. Records of visits of institutions and communities such as Santa Rita, Lagoa de Santo André, Alto da Colina, Amoreira, Bela Vista 2, So Domingos.

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:*

Evidenced that Kinross defines opportunities for the operation to Interact with the stakeholders and provide them with information regarding cyanide management practices and procedures. Kinross informs in its web site [www.kinross.com.br](http://www.kinross.com.br) – Health and Safety and Environmental . Verified records of training with police officers, firefighter, clinics. and found to be in place

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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:*

Verified that Kinross has a material with simplified information about cyanide management at his Plant, which are available to communities and other stakeholders. Was evidenced that Kinross held several meetings with cyanide producer, cyanide transporter, municipal organizations, police, municipal secretariat, hospitals, and communities. where the material was also distributed. Kinross developed written descriptions of cyanide management activities. There is no significant percentage of illiterate people in Paracatú. Anyway visits of Kinross public relationship representatives to communities (Santa Rita, Lagoa de Santo André, Alto da Colina, Amoreira, Bela Vista 2 and São Domingos), are recorded. In these visits, information like cyanide management and hazards were distributed as stated. Although any incident involving cyanide had occurred in the last three years, the operation, through its public relations process and stakeholders engagement policies and procedures, have specific communication channels to provide information, as required, related to cyanide related incidents. a) Cyanide exposure resulting in hospitalization or fatality? In the event of such incidents, the operation shall communicate the DRT - Delegacia Regional do Trabalho Minas Gerais. b) Cyanide releases off the mine site requiring response or remediation? In the event of such incident, the operation shall communicate with FEAM – Minas Gerais c) Cyanide releases on or off the mine site resulting in significant adverse effects to health or the environment? In the event of such incident, the operation shall communicate with FEAM – Minas Gerais d) Cyanide releases on or off the mine site requiring reporting under applicable regulations? In the event of such incident, the operation shall communicate with DRT - Delegacia Regional do Trabalho Minas Gerais. and FEAM – Minas Gerais. and e) Releases that are or that cause applicable limits for cyanide to be exceeded? In the event of such incident, the operation shall communicate with FEAM – Minas Gerais. Kinross did not have any of above mentioned incidents . In the event of such kind of incidents Kinross will make information available through the toll free phone number 08000381051 , which is available 24 hours per day or through the SHE Department phone + 55 38 36791179

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