GOLDER
MEMBER OF WSP

**REPORT**

# ICMC RECERTIFICATION SUMMARY AUDIT REPORT

*Pinos Altos Mine, Chihuahua, Mexico*

Submitted to:

**International Cyanide Management Institute (ICMI)**
1400 I Street, NW - Suite 550
Washington, DC 20005
United States of America

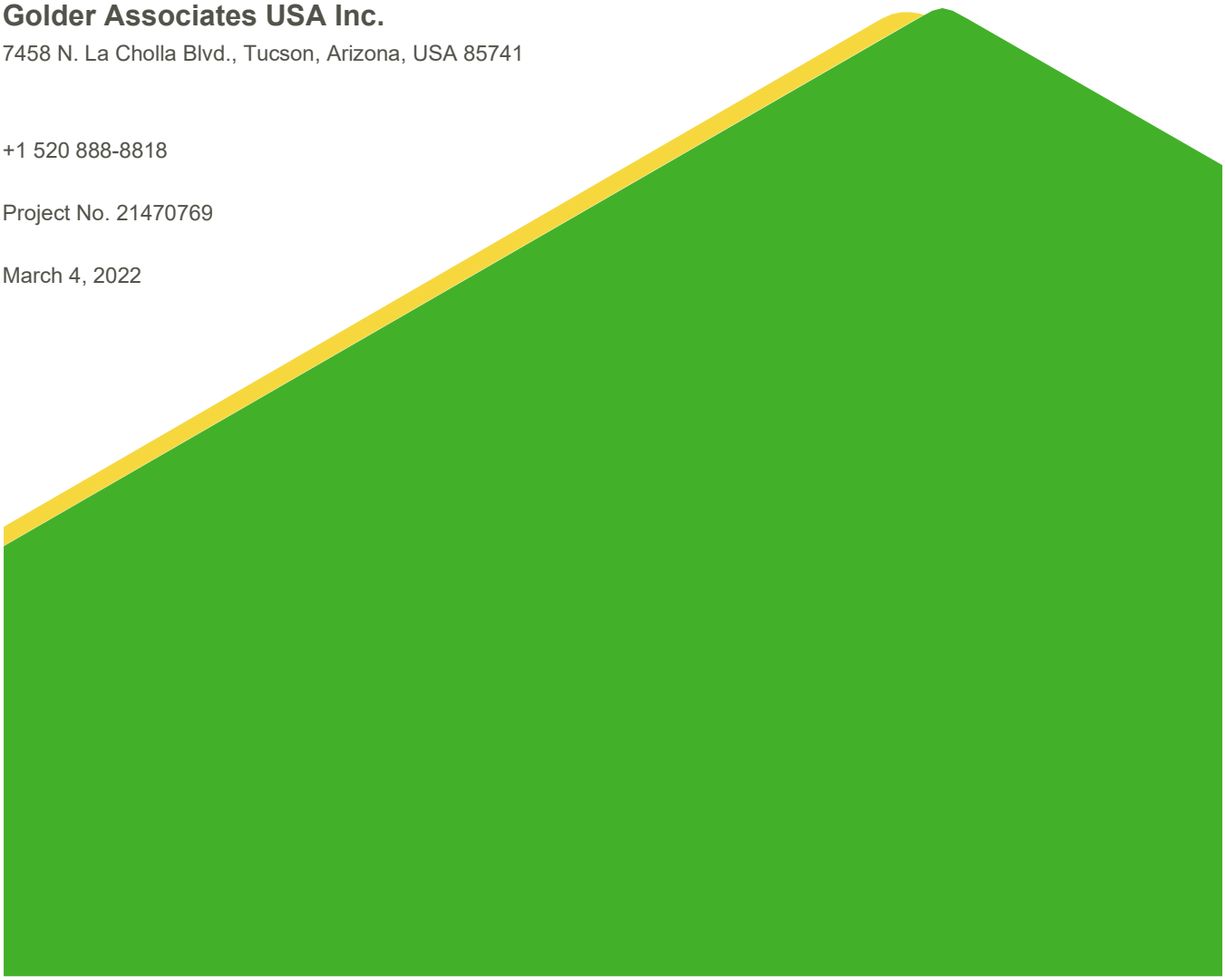
Submitted by:

**Golder Associates USA Inc.**
7458 N. La Cholla Blvd., Tucson, Arizona, USA 85741

+1 520 888-8818

Project No. 21470769

March 4, 2022



# Distribution List

1 unsecured Word file without signatures, 1 secured PDF file - Pinos Altos

1 secured PDF file - ICMI

# Table of Contents



**FIGURES**

# 1.0 SUMMARY AUDIT REPORT FOR GOLD AND SILVER MINING OPERATIONS

| | |
|---|---|
| **Name of Mine:** | Pinos Altos Mine |
| **Name of Mine Owner:** | Agnico Eagle Mexico |
| **Name of Mine Operator:** | Agnico Eagle Mexico |
| **Name of Responsible Manager:** | Marco Antonio Galindo Ramírez |
| **Address:** | Calle Via Trentino #5710, Int. 504<br>Colonia Saucito<br>Chihuahua, Chihuahua, México 31110 |
| **State/Province:** | Chihuahua |
| **Country:** | Mexico |
| **Telephone:** | +52 (635) 457-6000 |
| **E-Mail:** | marco.galindo@agnicoeagle.com |

# 2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

## 2.1 Mine Location

Pinos Altos is in the mountainous region of northern Mexico, approximately 220 kilometers (km) west of Chihuahua (Figure 1). Pinos Altos is owned and operated by Agnico Eagle Mexico (AEM), a subsidiary of Agnico Eagle Mines Ltd.


**Figure 1: Regional Location Plan**

## 2.2 Background

Pinos Altos poured its first gold in July 2009 and achieved commercial production in November of that year, while underground mining began in the late spring of 2010. Pinos Altos is a series of open pits and an underground mine along the Santo Niño Fault. Mining is by conventional open pit methods, using shovels and trucks to remove about 12 million tonnes of ore and waste material each year. The underground mining method is sub-level stoping (paste backfill) to extract ore from the Santo Niño, Cerro Colorado, Oberon de Weber and San Eligio deposits. Ore is trucked to surface via a ramp system. At current maximum production, the underground mine can provide 3,000 tonnes of ore per day. Shaft-sinking began in 2012 to increase the underground production capacity to 4,500 tonnes per day. The new shaft allows better matching of the mine capacity to the mill, which is operating at more than the design of 4,000 tonnes per day.

Most of the Pinos Altos ore is treated in a process plant (Figure 2) with the lower grade ore heap-leached (Figure 3). The conventional, 5,000-tonne/day process plant includes crushing, grinding, gravity concentration and agitated leaching followed by counter-current decantation (CCD). Tailings from the process plant are detoxified using an INCO treatment with sodium metabisulfite and then filtered and placed on as a dry stack in the Oberon de Weber Tailings Storage Facility (TSF) or mixed with cement at the Paste Plant for use as underground backfill. The Dry Stack TSF has not been used for tailings deposition since 2016. Gold and silver are recovered using the Merrill Crowe method and the flotation method. A refinery produces gold/silver doré bars on site. The lower grade Pinos Altos ore is treated in a Heap Leach Facility (HLF) designed to accommodate 5 million tonnes of material over the life of the mine, contributing about 5 percent of the total metal production.

Pinos Altos has received solid cyanide briquettes in wooden boxes from two ICMI-certified producers with one producer supplying cyanide in the first part of the audit cycle and a different producer supplying cyanide afterwards. The cyanide has been transported to Pinos Altos under the certified Mexico supply chains for these two producers. The last leg of the cyanide transport is by a trucking company certified as part of the producer's supply chain.

Pinos Altos has one cyanide warehouse for storing solid cyanide in wooden boxes and two mixing and storage areas. The cyanide warehouse and one of the cyanide mixing and storage areas are located at the process plant. The second cyanide mixing and storage area is located at the HLF. Pinos Altos previously had a second cyanide warehouse at the HLF. However, this warehouse was converted to a non-cyanide reagent warehouse during the previous audit cycle.

Pinos Altos has identified their cyanide facilities (i.e., facilities with concentrations of Weak Acid Dissociable [WAD] cyanide greater than or equal to 0.5 milligrams per liter [mg/l]). The list of cyanide facilities is largely unchanged from the previous audit cycles, but with the addition of one modified cyanide facility and one new cyanide facility, and several excluded facilities:

Cyanide Facilities from Previous Audit Cycles

- Process Plant, consisting of:
  - Cyanide warehouse
  - Plant cyanide mixing area (including the cyanide mixing tank and the cyanide storage tank)
  - Milling and grinding area
  - Leaching area (seven leach tanks)
  - Thickener area (six CCD thickeners and one grinding thickener tank)
  - Acacia reactor area
  - Merrill Crowe plant (including a barren solution tank, a clarified pregnant solution tanks, zinc cone, deaeration tower, clarifiers, and precipitate filter presses)
  - Detox area (an INCO cyanide destruct circuit with two detox tanks)
  - High solids thickener is a paste thickener to remove clays prior to filtration

  - Filtration plant, including the Filters Pond
- Flotation plant to recover silver associated with sulfides from the tailings of the leaching process
- HLF consisting of:
  - HLF Phases 1, 2, and 3
  - Pregnant pond, intermediate pond, and emergency pond
  - HLF cyanide mixing area (including the cyanide mixing tank and barren tank)
- Dry Stack TSF with deposition until February 2016 but continuing seepage and runoff from the tailings to the sedimentation pond
- Associated pipelines, pumps, valves, and appurtenances
- Surface water diversions associated with the above facilities

Modified Cyanide Facility This Audit Cycle

There is one modified cyanide facility this audit cycle:

- HLF Phase 4

New Cyanide Facility This Audit Cycle

There is one new cyanide facility this audit cycle:

- Sioux heater in the Acacia reactor area

Excluded Facilities

There are two excluded cyanide facilities this audit cycle because analytical data have shown that WAD cyanide concentrations have been less than 0.5 mg/l during this recertification period:

- Paste plant for making backfill from filtered tailings for the underground workings
- Oberon de Weber TSF with filtered tailings deposition in a former open pit

Time series graphs based on monthly internal laboratory data showed that concentrations of WAD cyanide throughout the recertification period were less than 0.5 mg/l in filtered tailings on the conveyor belt to the paste plant or the Oberon de Weber TSF. Based on the analytical data of monthly samples from an external laboratory, results from paste tailings throughout the recertification period were all non-detect at 0.001 to 0.008 mg/l WAD cyanide.

However, it proved impractical to not mention these excluded facilities in this detailed audit report because much of the evidence, like inspections and maintenance, is intertwined between cyanide and non-cyanide facilities. Therefore, this report treats the included and excluded facilities similarly, although it should be remembered that certain facilities have been excluded strictly speaking.

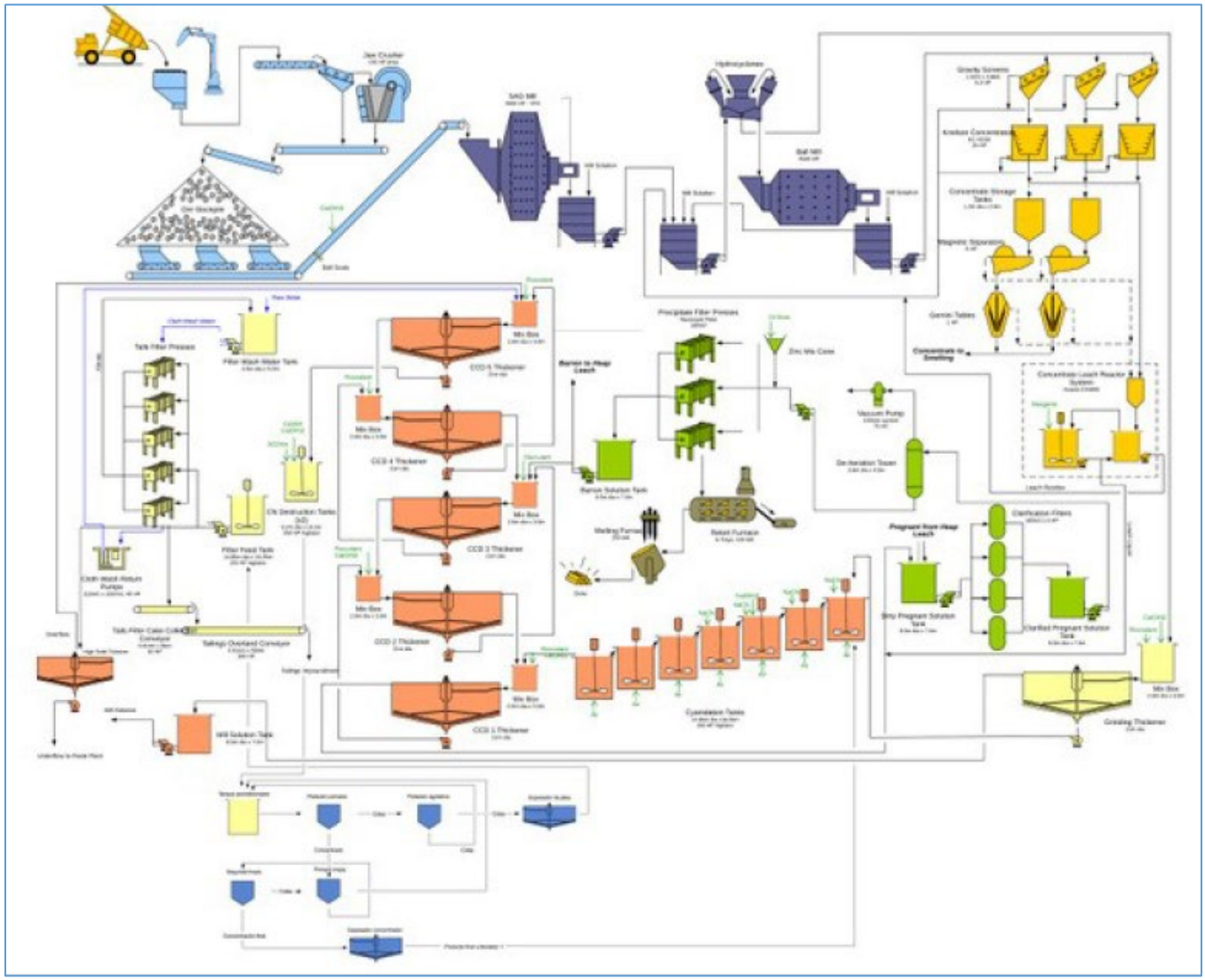


**Figure 2: Simplified Flow Diagram – Process Plant (supplied by Pinos Altos)**

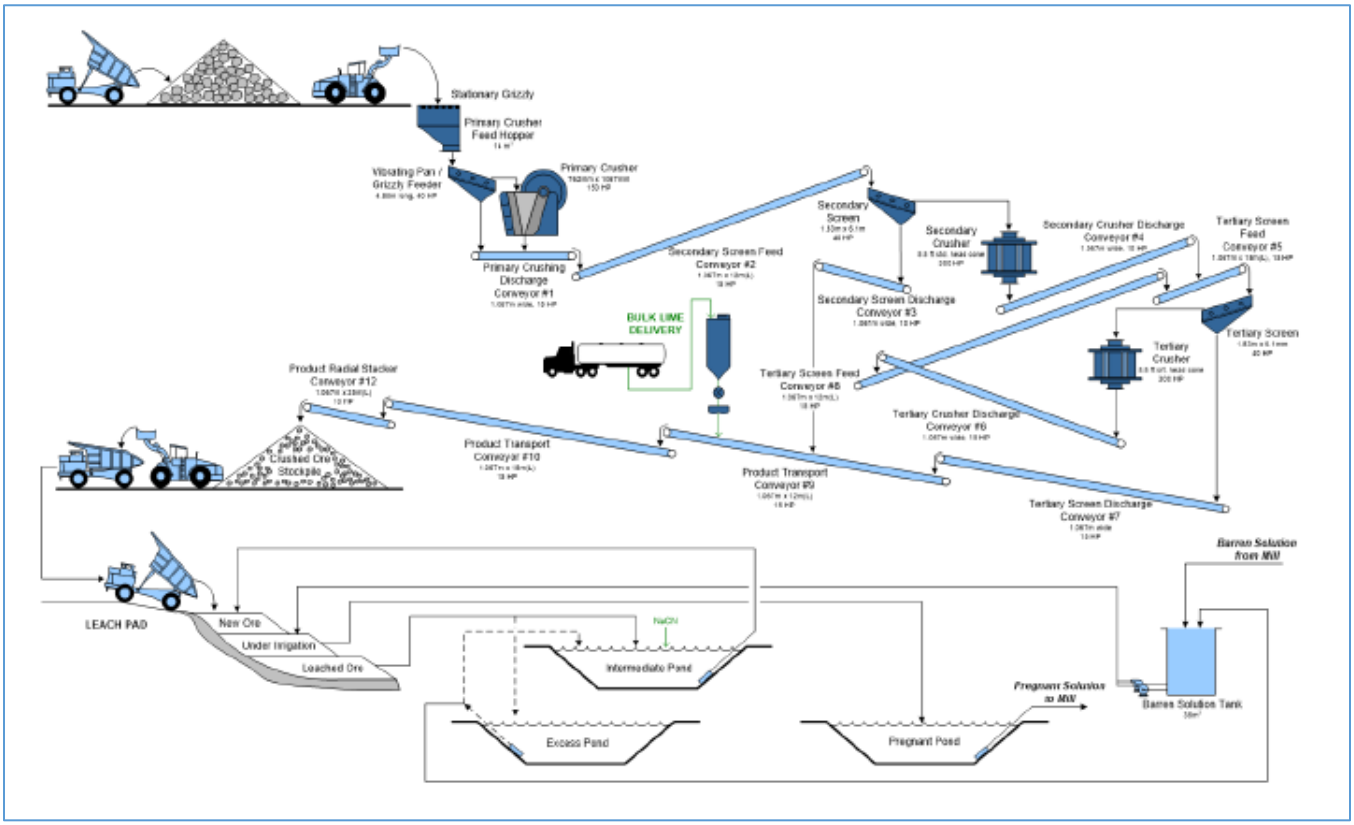



**Figure 3: Simplified Flow Diagram – Heap Leach (supplied by Pino Altos)**

# SUMMARY AUDIT REPORT

## Auditors Findings

| | | |
|---|---|---|
| **Pinos Altos Mine is:** | ☒ **in full compliance with** | **The International Cyanide Management Code** |
| | ☐ in substantial compliance with | |
| | ☐ not in compliance with | |

**Audit Company:** Golder Associates USA Inc.

**Audit Team Leader:** Kent R. Johnejack, Lead Auditor and Mining Technical Specialist

**Email:** kjohnejack@golder.com

The operation has not experienced compliance issues during the previous three-year audit cycle.

## Name of Other Auditors

| Name, Position | Signature |
|---|---|
| Raul Enrique Rubio, Support Auditor |  |

## Dates of Audit

The recertification audit was undertaken within four days from September 13 to 16, 2021.

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 (ICMI) and that all members of the audit team meet the applicable criteria established by the ICMI for 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 (ICMC or Code) Mining Operations Verification Protocol and using standard and accepted practices for health, safety, and environmental audits.

Pinos Altos Mine
Name of Facility


Signature of Lead Auditor

March 4, 2021
Date

March 4, 2021
Date


Signature of Lead Auditor

Pinos Altos Mine
Name of Facility

# PRINCIPLE 1 – PRODUCTION

## Encourage Responsible Cyanide Manufacturing by Purchasing from Manufacturers that 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.**

☒ **in full compliance with**

The operation is ☐ in substantial compliance with **Standard of Practice 1.1**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with 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.

Pinos Altos has purchased cyanide from certified manufacturers. During the recertification period, Pinos Altos has purchased cyanide from Chemours (now Draslovka Mining Solutions) and CyPlus Idesa. The cyanide has been manufactured at the Chemours plant in Memphis, Tennessee, United States and the CyPlus Idesa plant in Coatzacoalcos, Mexico. Both plants are certified under the Code. In addition, the Chemours warehouse in Hermosillo, Mexico and the CyPlus Idesa warehouse in Ciudad Obregon, Mexico are certified under the Code.

# PRINCIPLE 2 – TRANSPORTATION

## Protect Communities and the Environment during Cyanide Transport

**Standard of Practice 2.1:** **Require that cyanide is safely managed through the entire transportation and delivery process from the production facility to the mine by use of certified transport with clear lines of responsibility for safety, security, release prevention, training, and emergency response.**

**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:**

The operation is in full compliance with Standard of Practice 2.1; require that cyanide is safely managed through the entire transportation and delivery process from the production facility to the mine by use of certified transport with clear lines of responsibility for safety, security, release prevention, training, and emergency response.

Pinos Altos has chain of custody records identifying the elements of the supply chains used during the recertification period, as well as letters from the producers describing their respective supply chain. The Chemours cyanide transportation supply chain elements included rail transportation from the Memphis, Tennessee plant by the Canadian National Railway, Union Pacific and Ferromex; and truck transportation from Hermosillo, Mexico to the mine by Segutal. The CyPlus Idesa cyanide transportation supply chain elements included truck and maritime transport from the Coatzacoalcos plant to Ciudad Obregon, Mexico, and then land transport to the mine by Transportes Degam. The Chemours cyanide supply chains in the United States and in Mexico are certified with the Code. The CyPlus Idesa cyanide supply chain in Mexico is also certified with the Code.

# PRINCIPLE 3 – HANDLING AND STORAGE

## Protect Workers and the Environment during Cyanide Handling and Storage

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

☒ **in full compliance with**

**The operation is**

☐ in substantial compliance with **Standard of Practice 3.1**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with 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.

Pinos Altos has received only solid cyanide as briquettes in plastic bags inside wooden boxes during the recertification period. Pinos Altos has not received liquid cyanide via tanker trucks or solid cyanide via isotankers.

Pinos Altos has designed and constructed the facilities for unloading, storing, and mixing cyanide in accordance with applicable jurisdictional rules and sound and accepted engineering practices. Pinos Altos has one cyanide warehouse at the process plant for storing solid cyanide in boxes and two mixing/storage areas (i.e., process plant and HLF). No changes in these facilities have occurred this audit cycle and the auditor observed them to be in good condition. The Pinos Altos cyanide storage and mixing facilities achieved compliance during the initial audit and remain compliant this audit cycle.

Pinos Altos has located the unloading, mixing and storage areas for solid cyanide away from people and surface waters, and within fenced, gated, and locked areas to prohibit unauthorized access. The nearest surface water (an ephemeral creek named Arroyo Ana Maria) is located approximately 1 km north of the process plant and the HLF. The nearest community, La Bateria de Rodriguez, is located approximately 6.6 km to the west of Pinos Altos, well outside the mine perimeter fence.

Pinos Altos has fitted the high-strength cyanide tanks with level sensors linked to their respective controls room or panel at the Process Plant or HLF, as well as with audible-visual high-level alarms to prevent overfilling. The auditors observed screen shots that the level sensors were functioning. Pinos Altos also provided quarterly maintenance records for the level sensors from throughout the recertification period to verify that they were maintained.

Pinos Altos has stored solid cyanide at the walled and roofed cyanide warehouse at the process plant with a raised concrete floor to minimize the potential for contact with water and to prevent seepage or leakage to the subsurface. The warehouse also has grated concrete channels and a sump which reports to the preparation area. The cyanide warehouse has vent openings and a fan to provide adequate ventilation. All personnel entering the

cyanide warehouse must use a handheld monitor for cyanide dust or hydrogen cyanide gas (HCN). Only cyanide is stored in the cyanide warehouse, meaning there is no potential for contact with incompatible materials, such as acids, strong oxidizers, and explosives or with foods, animal feeds, and tobacco products.

Pinos Altos has stored high-strength cyanide solution at the process plant preparation area in two outdoor tanks with adequate ventilation and on solid concrete bases/floors and a concrete secondary containment that provide a competent barrier to leakage. At the HLF preparation area, the two tanks are also located outside with adequate ventilation and on solid concrete bases/floors and a secondary containment that are sloped to drain to the adjacent pregnant pond. Also, Pinos Altos has isolated the cyanide preparation areas at the process plant and HLF away from incompatible materials.

**Standard of Practice 3.2:** **Operate unloading, storage, and mixing facilities using inspections, preventative 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:**

The operation is in full compliance with Standard of Practice 3.2; operate unloading storage and mixing facilities using inspections, preventative maintenance, and contingency plans to prevent or contain releases and control and respond to worker exposures.

Pinos Altos has implemented procedures that prevent empty cyanide containers from be reused, that require rinsing, and that ensure their proper disposal at an authorized facility. The cyanide boxes have been tracked by serial number to ensure all are accounted for. Empty bags have been rinsed three times and then temporarily stored with the empty wooden boxes in the cyanide warehouse until transport by authorized trucking companies for disposal. The auditors reviewed the logbook inventory and examples of completed manifests for disposal of the empty boxes and plastic bags to verify compliance throughout the recertification period.

Pinos Altos has implemented procedures that address operating valves, timely cleanup of spills, and handling cyanide containers with a forklift to prevent rupturing or puncturing during cyanide unloading and the transfer of the containers from the cyanide warehouse to the cyanide preparation area. Procedures also require that cyanide containers be stacked no more than two high within the cyanide warehouse; the auditors observed this to be the case. The procedures also specify the personal protective equipment and require that an observer be present during the cyanide mixing. Finally, the procedures call for addition of colorant during mixing. A cyanide mixing event was observed at the process plant to verify the implementation of these procedures.

# PRINCIPLE 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 including contingency planning and inspection and preventative maintenance procedures.**

**The operation is**

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.1**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 4.1; implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventative maintenance procedures.

Pinos Altos has developed management systems for operating their facilities, including the cyanide facilities. The systems include the Mining Association of Canada's Towards Sustainable Mining program; the AEM Risk Management and Monitoring System that is consistent with International Standardization Organization 14001 Environmental Management System and the Occupational Health and Safety Assessment Series 18001 Health and Safety Management System; the Clean Industry program (Industria Limpia – a Mexican government program); and the AEM Management System for Responsible Mining.

Pinos Altos has developed plans and procedures that describe the design criteria and applicable regulatory requirements to prevent or control cyanide releases and exposures. Freeboard has been defined in various procedures as 0.5 meters (m). Groundwater and surface water standards for cyanide have been referenced to a Mexican regulation. A procedure defines the the concentration goal of 10 mg/l WAD cyanide after detoxification, if needed, for solutions in the HLF emergency pond. The GoldSim water balance model defines the 100-year, 24-hour design storm as 180 millimeters (mm).

Pinos Altos has developed a thorough set of standard operating procedures for the safe and environmentally sound operation of their cyanide facilities. The procedures detail the risks involved with each task and adequately describe safe work practices. Each procedure details task-specific measures, personal protective equipment (PPE) requirements, and persons responsible for verifying that the procedures for each cyanide task are implemented.

Pinos Altos has developed a procedure to review proposed changes to production processes, operating practices, or cyanide facilities to evaluate implications for releases and safety and determine mitigation measures. Pinos Altos provided four examples of changes related to the cyanide facilities during the recertification period that were signed by the Safety and Health and Environmental Departments.

Pinos Altos has developed contingency procedures for upsets in the water balance; deviations from design or standard operating procedures; and temporary closure or cessation. These procedures describe measures to be taken when the water level in the ponds exceeds the freeboard levels and, in the case of the emergency pond, neutralization measures if overtopping is imminent. Specific contingency plans have been developed for the failure scenarios relevant to the HLF, Dry Stack TSF, and the Oberon de Weber TSF. The conceptual closure plan addresses temporary closure or cessation of the cyanide facilities.

Pinos Altos has developed and implemented inspection programs for their cyanide facilities. Inspections have covered tanks, pumps, valves, secondary containments, pipelines, ponds, leak detection and collection systems at the HLF and ponds, TSFs, wildlife presence and mortality, and surface water diversion channels. Tank integrity has been monitored by an annual program of ultrasonic thickness measurements. Pinos Altos has documented the inspections using forms and checklists that contain the date, inspector name, and spaces for comments regarding corrective actions. Corrective actions have been tracked to completion by the maintenance department.

Pinos Altos has inspected the cyanide facilities at a reasonable frequency for each type of facility to assure they are functioning with design parameters. The inspection frequencies are daily, weekly, or monthly depending on the facility, as well as per event (in the case of pre-work inspections for cyanide mixing and unloading). Pinos Altos has retained these records throughout the recertification period.

Pinos Altos has implemented a maintenance program to ensure that equipment and devices function properly. Pinos Altos uses a software program to manage its maintenance activities, both preventive (scheduled) and corrective (unscheduled). As evidence of completed maintenance, Pinos Altos provided a spreadsheet of corrective actions for a randomly selected area and preventative maintenance histories for randomly selected equipment. Pinos Altos provided inspection and maintenance (including calibration) records for level sensors and pH meters from throughout the recertification period.

Pinos Altos has eight generators of 1,850 kilowatts each to operate the entire mine when the primary government supplier is unable to meet demand, thereby preventing releases and exposures. Pinos Altos provided annual lubrication schedules; biannual operation inspection and testing reports, purchase orders for annual external maintenance; and a report on a thermographic evaluation of oil and coolant in the generators.

**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

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 4.2; introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

Pinos Altos has implemented a program to minimize cyanide use in its milling area and flotation plant, the two major circuits at the mine. Two cyanide optimization studies for the milling area confirmed the cyanide addition rate of 1,100 mg/l free cyanide for ore from the underground workings and a small satellite surface ore body. For the flotation plant, the ore characteristics have not changed this audit cycle and no additional testing has been undertaken

Pinos Altos has implemented a manual and automatic control strategy. Pinos Altos has adjusted cyanide addition in the milling area and flotation plant to generally maintain its target cyanide addition rates based on samples collected every two hours, as documented in control tables and daily reports. Pinos Altos has also installed a Cyanoprobe device as an automatic control strategy in the detox circuit to limit the cyanide entering the filtration circuit. Time series graphs showed that concentrations of WAD cyanide were less than 0.5 mg/l in filtered tailings throughout the recertification period.

**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:**

The operation is in full compliance with Standard of Practice 4.3; implement a comprehensive water management program to protect against unintentional releases.

Pinos Altos has developed two water balance models. The first is a comprehensive, probabilistic GoldSim model for the life of mine. The second is a comprehensive Excel-based operational model with a daily time step. Both models are comprehensive in that they contain the appropriate cyanide facilities, including the HLF Phase 4 added this audit cycle. The GoldSim model is probabilistic in that key input and output parameters are represented by distributions rather than single values.

Pinos Altos has developed a GoldSim model that considers the appropriate input parameters for the facilities and the environment. The model assigned reasonable values for precipitation, evaporation, moisture content of ore, irrigation areas and rates for the HLF, representative climate data, draindown from the HLF in case of a power outage or pump failure, and seepage from the TSFs. Model runs also tested multiple-day power outages with combinations of initial pond water levels (low and high) and extreme events (100-year, 24-hour event and double that event) to show that the emergency pond is unlikely to overtop.

Pinos Altos has designed and operated ponds with adequate freeboard of 0.5 m above the maximum design storage capacity. Time series graphs of water levels from throughout the recertification period showed that pond water levels were maintained below the freeboard level with some exceptions judged acceptable by the auditor because they were minor and isolated or had occurred early in the recertification period without later reoccurring.

Pinos Altos has developed a procedure, monitoring, and inspections to implement the water balance and prevent overtopping. A contingency procedure describes the measures to be implemented during upset conditions to

prevent overtopping, including the use of misters to evaporate water. Pond water levels are monitored by pressure sensors and staff gages and entered daily into an Excel spreadsheet water balance. Pinos Altos also inspects diversion channels daily.

Pinos Altos has measured precipitation locally and incorporated the data into operating practices. Pinos Altos has installed one meteorological station, five rain gages, and two evaporation pans at the mine. The 100-year 24-hour event used in the GoldSim model was increased from 150 to 180 mm during this audit cycle based on these data.

**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:**

The operation is in full compliance with Standard of Practice 4.4; implement measures to protect birds, other wildlife, and livestock from adverse effects of cyanide process solutions.

Pinos Altos has implemented measures to restrict access by wildlife and livestock to all open waters where WAD cyanide exceeds 50 mg/l. These measures have not changed since the previous audit. Measures include mine perimeter fencing, pond perimeter fencing, netting over the pregnant and intermediate ponds, and conveyance of process solutions in pipelines. The auditors observed these measures to be in good condition during the site visit.

Pinos Altos has demonstrated that WAD cyanide concentrations were less than 50 mg/l during the recertification period in the open waters without netting. Based on quarterly analytical data from an external laboratory, the concentrations were at least less than 5 mg/l, and generally less than 0.5 mg/l in the emergency pond, filters pond, sedimentation pond at the Dry Stack TSF, the contact water pond at the Oberon de Weber TSF, and the ramp pond for water from the underground workings.

Pinos Altos has prevented significant wildlife mortality during the recertification period. Staff stated there were no mortalities and daily inspections confirmed this statement.

Pinos Altos has applied leach solutions in a manner that avoids significant ponding the HLF surface and overspray outside the footprint of the HLF. Pinos Altos has developed a procedure to mitigate significant ponding. Low profile sprinklers have been installed to limit overspray. The auditors did not observe any ponding or overspray at the time of the site visit.

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

☒ **in full compliance with**

**The operation is** ☐ in substantial compliance with **Standard of Practice 4.5**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 4.5; implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

Pinos Altos does not have a direct discharge from the cyanide facilities to surface water, nor are there any mixing zones.

Pinos Altos has the potential for indirect discharges to surface water in four ephemeral washes: Arroyo La Bateria, Arroyo El Durazno, Arroyo Carboneras, and Arroyo La Maquina. The concentrations of free cyanide were below the minimum quantifiable quantity of 1.0 mg/l in samples collected from monitoring stations in these four washes during the recertification period. The concentrations of WAD cyanide at these stations were generally non-detect with an occasional concentration of up to 0.016 mg/l. Given that in free cyanide concentrations are typically less than WAD cyanide concentrations, the auditors accepted these data as confirmation of no indirect discharges.

Pinos Altos has not detected indirect discharges of cyanide solutions to surface waters and therefore is not engaged in remediation to prevent degradation or restore beneficial use.

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

☒ **in full compliance with**

**The operation is** ☐ in substantial compliance with **Standard of Practice 4.6**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 4.6; implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.

Pinos Altos has implemented the following measures to reduce the potential for seepage to groundwater: geomembrane lining for the leach pad (low permeability underliner fill overlain by geomembrane liner); double liner with leak detection for the pregnant, intermediate, and emergency ponds; single liner for the filters pond; and concrete floors in process plant (including cyanide warehouses and cyanide mixing area) and in flotation plant. The Dry Stack TSF and Oberon de Weber TSF were constructed with foundation drains to remove water that

accumulates at the base of the tailings mass and report to the sedimentation pond and filters pond, respectively. These measures have not changed since the previous audit cycle and were implemented at the new cyanide facility (concrete floor at the Sioux heater facility) and low permeability underliner and geomembrane at the modified cyanide facility (Phase 4 of the HLF).

Pinos Altos has monitored for cyanide in groundwater to demonstrate that beneficial uses of groundwater downgradient of the cyanide facilities have not been affected at concentrations greater the numerical standards in Mexican regulations. The Pinos Altos Environmental department has adopted the standard of 1.0 mg/l total cyanide from the Mexican federal regulation (NOM-001-SEMARNAT-1996), which is the standard for agricultural use and human consumption of groundwater. No actual points of beneficial groundwater use have been identified downgradient of the cyanide facilities. Pinos Altos has installed seven monitoring wells downgradient of the cyanide facilities. Based on analytical data of quarterly samples from an external laboratory, results from throughout the recertification period were generally non-detect but always less than 1.0 mg/l total cyanide.

Pinos Altos has used detoxified paste tailings mixed with cement as underground backfill. Monthly underground HCN measurements of 0.0 parts per million throughout the recertification period indicated no risk to worker health. Analytical results of monthly paste tailings samples from throughout the recertification period were all non-detect for WAD cyanide. Analytical results of quarterly samples of underground dewatering water from throughout the recertification period were mostly non-detect with a maximum value of total cyanide below the regulatory limit of 1.0 mg/l. Results obtained are protective of worker health and groundwater.

Pinos Altos has not caused cyanide concentrations in groundwater to rise above levels protective of beneficial use, and therefore has not been engaged in remedial activity to prevent further degradation and restore 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:**

The operation is in full compliance with Standard of Practice 4.7; provide spill prevention or containment measures for process tanks and pipelines.

Pinos Altos has provided spill containment measures for all cyanide unloading, storage, mixing and process solution tanks. The mixing and storage tanks and the cyanide solution tanks at the process plant have been installed on solid concrete bases within concrete secondary containment. The floor of the containment for the HLF cyanide mixing and barren tanks is sloped towards the adjacent pregnant pond, which provides secondary containment.

Pinos Altos has properly sized secondary containments. These containments have not changed since the initial and previous recertification audits, except for the new cyanide facility this audit cycle (i.e., Sioux heater), and the findings from those previous audits still hold. Containment capacities ranged from 110 to 782 percent of the largest tanks or vessels within their containments. For the Sioux heater, the containment volume was 110 percent of the required volume.

Pinos Altos has designed the secondary containments to not discharge to the environment and therefore no written procedures are needed to prevent discharge of contained water to the environment. Sumps with automated pumps in the secondary containments return cyanide solutions to the process circuits.

Pinos Altos has constructed cyanide solution pipelines with containment measures to collect leaks and prevent releases to the environment. The pipeline containments consist of concrete channels, double-wall pipes, geomembrane-lined ditches, and steel trays. The auditors observed these pipeline secondary containments during the site visit and found them to be in good condition.

There are two pipeline segments without secondary containment because the concentrations of WAD cyanide were less than 0.5 mg/l during the recertification period: (1) The pipeline for tailings water from the Oberon de Weber TSF decant tower sump to the filters pond, and (2) several meters of the pipe from the high solids thickener to the paste plant.

Pinos Altos has constructed tanks and pipelines with materials compatible with cyanide and high pH conditions. Cyanide tanks have been constructed of carbon steel. Pipelines have been constructed of carbon steel, stainless steel, and high-density polyethylene. The new Sioux heater was constructed of stainless steel.

Pinos Altos does not have cyanide-related tanks without secondary containment.

Pinos Altos does not have areas when cyanide pipelines present a risk to perennial surface water. Surface water is ephemeral and there are no natural surface water bodies in the vicinity of the mine.

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

☒ **in full compliance with**

**The operation is**

☐ in substantial compliance with **Standard of Practice 4.8**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with 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.

Pinos Altos has implemented quality control and quality assurance (QA/QC) programs during the construction the cyanide facilities. Because the initial certification audit and the first recertification audit found the QA/QC programs compliant for the cyanide facilities present at those times, only the QA/QC programs for the new or modified cyanide facilities this audit cycle have been evaluated.

Pinos Altos has implemented a QA/QC program for HLF Phase 4, a modified cyanide facility constructed in 2018. Borrow sources were tested and accepted as part of the HLF Phase 3 project. QA/QC included earthwork observation; low permeability liner placement observation and compaction testing; geomembrane installation observation and testing; solution and leak detection collection piping observation and testing; and gravel overliner placement and testing. In addition, a post-installation geomembrane leak detection survey was completed followed by liner repairs. The design consultant issued a letter certifying that the facility had been constructed in accordance with the design and specifications. The letter was written by an engineer with cedula, the equivalent of professional registration in Mexico.

Pinos Altos has also implemented a QA/QC program for the Sioux Heater, a new cyanide facility at the Acacia reactor area constructed in 2019. The program included foundation soil classification, compaction testing, rebar inspection, and concrete testing. The Pinos Altos Chief of Projects stated that he oversaw the construction and judged the completed project fit for service. The Chief of Projects is an engineer with a cedula, the equivalent of professional registration in Mexico.

Pinos Altos has retained QA/QC documentation and records. The auditors were provided pdfs of the previous QA/QC reports listed in the initial report and previous recertification audit report to verify compliance.

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

The operation is in full compliance with Standard of Practice 4.9; implement monitoring programs to evaluate the effects of cyanide use on wildlife, and surface and groundwater quality.

Pinos Altos has developed written standard procedures for surface water, groundwater, and wildlife monitoring. The procedure for surface water and groundwater sampling describes monitoring for these media. The procedure for daily walk describes daily wildlife monitoring and reporting mortalities. These procedures have been developed by appropriately qualified personnel at Pinos Altos, including a chemical engineer and environmental engineer both with more than 10 years of experience in sampling and analysis. The analytical laboratory procedures have been developed by laboratory accredited by the Mexican entity for accreditation.

The procedure for surface water and groundwater sampling covers sampling locations, sampling procedures, cyanide species to be analyzed, sampling containers, preservation methods, chain of custody procedures, transportation instructions, and quality control procedures. The analytical laboratory, on behalf of Pinos Altos, has collected the samples and prepared chain of custody records. Field sampling sheets have recorded weather, flora, fauna, and other conditions that might affect sample results.

Pinos Altos has monitored at frequencies adequate to characterize the media being monitored and to identify changes in a timely manner. Wildlife inspections have been completed daily. Groundwater monitoring has been monitored quarterly. Surface water has been monitored monthly to quarterly, as appropriate for ephemeral watercourses.

# PRINCIPLE 5 – DECOMMISSIONING

## Protect Communities and the Environment from Cyanide through Development and Implementation of Decommissioning Plans for Cyanide Facilities

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

☒ **in full compliance with**

**The operation is**

☐ in substantial compliance with **Standard of Practice 5.1**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 5.1; plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife, and livestock.

Pinos Altos has developed a conceptual closure plan to decommission cyanide facilities when operations cease. The 2021 conceptual closure plan includes the appropriate cyanide facilities and decommissioning activities. Table V.1 in the conceptual closure plan is a general schedule that shows mine closure, including decommissioning, is estimated to take three years. Pinos Altos has reviewed and updated its closure plan annually during the recertification period, as evidenced by the 2019, 2020, and 2021 versions of the plan.

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

☒ **in full compliance with**

**The operation is**

☐ in substantial compliance with **Standard of Practice 5.2**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 5.2; establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

Pinos Altos has developed a cost estimate for decommissioning of cyanide facilities based on independent contractor quotes as part of its annual Asset Retirement Obligation process. The cost estimate covers the appropriate cyanide facilities and decommissioning activities such as removal of residual cyanide and decontamination. It also includes the electricity, labor, and materials costs for rinsing the HLF, as specified in the closure plan and required by Mexican regulations. Contractor quotes from 2021 were used to develop unit costs, as well as to obtain lump sum costs for certain decommissioning activities. The subset of mine closure costs for decommissioning cyanide facilities was estimated separately. Pinos Altos has reviewed and updated its closure

cost estimate annually during the recertification period, as evidenced by the 2019, 2020, and 2021 versions of the estimate.

Pinos Altos has established self-guarantee as the financial assurance mechanism. A qualified financial company prepared a statement that the operation has sufficient financial strength to fulfil this obligation as demonstrated by an acceptable financial evaluation methodology (i.e., Section 40 of the United States Code of Federal Regulations 265.143(f)). The preparer was a certified public accountant in Mexico. The amount of self guarantee noted in the declaration exceeded the subset of decommissioning costs.

# PRINCIPLE 6 – WORKER SAFETY

## Protect Workers' Health and Safety from Exposure to Cyanide

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

☒ **in full compliance with**

**The operation is**

☐ in substantial compliance with **Standard of Practice 6.1**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 6.1; identify potential cyanide exposure scenarios and take measure as necessary to eliminate, reduce, and control them.

Pinos Altos has developed a series of procedures for cyanide tasks in the different operational areas. They provide detailed information for the risks involved in each task, safe work practices, training requirements, and consideration of safety and potential physical and chemical hazards. The cyanide preparation procedure, for example, covers from the transport of the cyanide boxes from the warehouse to the mixing area to the rinsing of the empty plastic bags and the final disposition of the empty containers. Other procedures address operation of the areas for grinding, Merrill Crowe, leaching, thickeners, cyanide destruction, filters, and tailings, among others. Procedures are also in place for working in confined spaces and decontamination prior to maintenance. The auditors observed the use of these procedures in the field to confirm their implementation.

Pinos Altos has developed procedures that specify the requirements for PPE, training, risks associated with the task, and pre-work inspections. The auditors reviewed examples of pre-work inspection checklists for cyanide offloading and preparation.

Pinos Altos has requested and considered the participation of workers in the development and evaluation of health and safety procedures. This is done through multiple working mechanisms. Worker comments and responses are evaluated and resolved through the INTELIX database. The auditor reviewed examples of these records, as well as the supervisor responses, in the INTELIX database to verify compliance.

**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.**

☒ **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:**

The operation is in full compliance with 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.

Pinos Altos has determined the appropriate pH for limiting the evolution of HCN gas during mixing and production activities. The operation has determined in their procedures a minimum pH of 10 to 11 for dosage, and a minimum pH of 10.5 to11.5 for the mixing area. The auditors reviewed data that showed that Pinos Altos has maintained pH levels at values above the minimum values prescribed in the procedures. The auditors also observed real-time pH data in the control room to verify compliance.

Pinos Altos has identified areas and activities where workers may be exposed to HCN in excess of 10 parts per million (ppm) on an instantaneous basis and 4.7 ppm continuously over an 8-hour period and has required use of PPE in these areas or when performing these activities. The areas identified were the cyanide preparation area in the process plant, leach tank 1, cyanide destruction tanks, Acacia, Merrill Crowe, flotation, and cyanide preparation area at the HLF. These areas were identified through a risk assessment where the initial risk, the control measures, and the probability and the consequence of the risks were evaluated. Portable HCN monitors have been provided to workers in areas where there is a potential for HCN exposure. Fixed HCN monitors are located at the cyanide preparation area in the process plant, leach tank 1, cyanide destruction tanks, Acacia, Merrill Crowe, flotation, and cyanide preparation area at the HLF. HCN monitors have audible alarms set at 4.7 ppm for evacuation.

Pinos Altos has followed the manufacturer's instructions to perform the maintenance, tests and calibration of its monitors. The operation has personnel certified by the manufacturer and the proper equipment to calibrate the units. The calibration records for 2018 to 2021 were reviewed and found to be complete. The records had the values with which the HCN monitors were calibrated.

Pinos Altos has placed signs in Spanish in work areas where cyanide is present, including the plant, HLF, and Dry Stack TSF. Signs also indicate activities that are prohibited in those areas and the required PPE.

Pinos Altos has dyed high strength cyanide solution for clear identification. The operation adds red dye No.40 to the cyanide solution during the mixing process. Workers must specify that the dye was added in the "Cyanide Preparation" section of the daily inspection checklist. The auditors were present at a cyanide solution preparation event and observed the addition of the colorant to the solution.

Pinos Altos has installed showers, eyewash stations, and dry powder or non-acidic sodium bicarbonate fire extinguishers at strategic locations throughout the operation. Showers and eye wash stations are inspected and tested daily and prior to beginning of a task that has the potential for cyanide exposure. The auditors randomly checked showers and eyewashes during the site visit to verify functionality. Fire extinguishers are inspected and tested monthly. Pinos Altos also has an external contractor that tests fire extinguishers on a monthly basis.

Pinos Altos has identified storage, mixing and process tanks and piping containing cyanide to alert workers of their contents. A site inspection showed that cyanide lines were labelled with yellow-colored labels showing direction of flow. The cyanide mixing and storage tanks were labelled.

Pinos Altos has placed Safety Data Sheets (SDS) and first aid procedures in areas where cyanide is managed. The information has been provided in Spanish, the language of the workforce. Electronic SDS versions have been made accessible to staff from computers located throughout the facility using the intranet.

Pinos Altos has developed and implemented a procedure to investigate and evaluate incidents, including cyanide exposure incidents, to determine if the operation's programs and procedures to protect worker health and safety, and to respond to cyanide exposures, are adequate or need revision. The procedure documents the requirements for incident reporting and investigation to determine purpose, justification, scope, responsibilities, development, research methodology, and the basic causes of the incident. No cyanide related incidents have occurred during the recertification period, but the auditors reviewed two examples of non-cyanide incidents to verify compliance.

**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

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 6.3; develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

Pinos Altos had made available antidote kits, water, oxygen, resuscitators, radios, telephones, and alarms in the process plant, leach pad and clinic. The location of the emergency equipment was deemed to be appropriate for the operation. Cyanide antidote kits with oxygen tanks and amyl nitrate, sodium nitrite, and sodium thiosulfate are located at cyanide preparation area in the process plant, Merrill Crowe circuit, laboratory, HLF, control room at the process plant and the clinic. The operators carry a two-way radio while performing their tasks. Pinos Altos also has a dedicated radio channel for paramedics as well as dedicated landline extensions, and there are push button alarms at various locations in the plant, including the mixing area.

The first aid equipment has been inspected regularly to ensure that it is available when needed, and that materials such as cyanide antidotes are stored and tested as directed by their manufacturer and replaced when due to avoid expiration. Pinos Altos has kept their oxygen tanks operable with tracking records of the inspections. For the ambulances and clinic, the brigade commander and paramedics are in charge of reviewing the first aid equipment and the emergency response equipment.

The operation has developed and implemented emergency response plans and procedures to respond to cyanide exposures. Collectively these documents address potential accidental releases of cyanide ranging from actions for the attention to spills or cyanide poisoning, to the communication and handling of the emergency with stakeholders.

Pinos Altos has its own onsite capability to provide first aid and medical assistance to workers exposed to cyanide. The mine has an emergency response team (ERT) trained in first aid and hazardous materials. The on-site clinic always has one paramedic and one doctor per shift, seven days a week. Clinic personnel are trained in high level medical response and are authorised to administer cyanide antidotes. The clinic has defibrillation equipment, medical oxygen, resuscitators, and antidotes. The ERT is trained in emergency first aid and would provide additional medical support when needed.

Pinos Altos has a procedure and resources to transport someone intoxicated by cyanide to a hospital in the city of Cuahtemoc by land or by air. The patient would be accompanied by a paramedic all the way to the hospital. The hospital in the city of Cuauhtémoc has signed a memorandum confirming their understanding of their role to treat patients exposed to cyanide in case of an emergency.

# PRINCIPLE 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:**

The operation is in full compliance with Standard of Practice 7.1; prepare detailed emergency response plans for potential cyanide releases.

Pinos Altos has developed and implemented emergency response plans and procedures to address potential accidental releases of cyanide and cyanide exposures. The documents include:

- Emergency Response Plan for Cyanide Spill (ERPCS),
- Crisis Management Plan (CMP),
- Cyanide Spill Control (CSC),
- Cyanide Poisoning Antidote (CPA),
- General Evacuation Plan (GEP),
- Action Plan and Emergency Response 2020 (AERP), and
- Contingency Attention Plan (CAP).

The Pinos Altos procedures consider cyanide failure scenarios appropriate for the operations site-specific environmental and operating circumstances. The Environmental Risk Study in the Environmental Impact Study for the operation evaluated the HCN releases and concluded that no community was within the potential impact zone. Releases and spills are addressed in the CSC. Fires and explosions are addressed in the AERP and a fire prevention procedure. Ruptures in pipes, valves, and tanks, as well as pond overflows, are addressed in the ERPCS and the CSC. Electrical outages and pump malfunctions are addressed in the AERP. Uncontrolled seepage is addressed in the AERP. Failure of the cyanide destruct circuit are addressed in a procedure for Detox Startup after Power Failure. TSF and HLF failures are addressed in the operation and maintenance manuals for the Oberón Weber and Dry Stack TSFs, and the procedure for slope failures and liner tears, respectively.

The AERP addresses transportation accidents onsite and within 30 km of the mine. For offsite incidents, the role of the Pinos Altos ERT is to control the accident area until the cyanide supplier's brigade arrives.

The GEP addresses evacuation of mine facilities and potentially affected communities. The CPA addresses antidote use. The ERPCS, CSC, and AERP collectively address control of releases at their source, as well as containment, assessment, mitigation, and future prevention of releases.

**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:**

The operation is in full compliance with Standard of Practice 7.2; involve site personnel and stakeholders in the planning process.

Pinos Altos has involved its workforce and stakeholders in the cyanide emergency response planning process, including local communities, contractors, operators, and agencies. Pinos Altos has made these risks known through annual training to local communities on their emergency response plans and procedures.

Pinos Altos has made potentially affected communities aware of the nature of their risks associated with accidental cyanide releases and consulted with them directly or through community representatives regarding appropriate communications and responses. The site has held mutual assistance meetings with external responders and community leaders in Ocampo, Bateria, and Basaseachi during the recertification period to discuss the use of cyanide in gold mining, potential risks, control measures, and community concerns.

Pinos Altos has identified external entities and some of them have been given response roles in the cyanide emergency planning and response process. Outside responders were trained by Pinos Altos staff on the correct use of the antidote for cyanide poisoning. The Servicios Hospitalarios de Cuahutemoc was annually sent a letter defining their role and responsibilities in a cyanide emergency.

Pinos Altos has engaged in consultation with stakeholders to keep the emergency response planning current. The operation has provided training on its cyanide emergency response plans and risks on cyanide management to local communities annually. Likewise, Pinos Altos has provided training on its emergency response plan for cyanide poisoning to representatives of the Red Cross, firefighters, and local hospital. Consultation with mine workers is provided through the health and safety meetings and 5-minute pre-shift information meetings.

**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:**

The operation is in full compliance with Standard of Practice 7.3; designate appropriate personnel and commit necessary equipment and resources for emergency response.

Pinos Altos has developed emergency response procedures that address the Code-required elements. The CMP defines responsibilities and the key staff who have the authority to commit resources. The AERP contains a section where all the members of the current ERT are listed with their position in the brigade and their responsibilities. The CAP details the required qualifications and trainings for emergency responders in a matrix. Pinos Altos has certificates for the training received by the ERT. The AERP has the 24-hour contact information and callout procedures for the emergency coordinators and members of the ERT. The AERP also details their specific roles and responsibilities. The CAP details equipment resources and the inspection program to ensure their availability. Pinos Altos has regularly inspected the ERT equipment during the recertification period. The Red Cross, the municipality of Ocampo, and Servicios Hospitalarios de Cuahutemoc have been made aware of the importance of their actions and the role they play in certain emergencies related to cyanide. The operation has annually contacted the hospital in Cuauhtémoc regarding acceptance patients that have been exposed to cyanide.

**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:**

The operation is in full compliance with Standard of Practice 7.4; develop procedures for internal and external emergency notification and reporting.

Pinos Altos has developed procedures that include instructions and contact information for notifying management, regulatory agencies, outside response providers, and medical facilities in case of cyanide emergencies. The AERP and ERPCS contain this information.

Pinos Altos has also developed procedures that include instructions and contact information for notifying potentially affected communities of cyanide-related incidents and response measures, as well as for communication with the media. The CMP describes the communication procedure for communities, including how the mine spokesperson will call key stakeholders in advance of, or simultaneously with, the release of the preliminary statement to the media.

The AERP includes a requirement for notifying ICMI of significant cyanide incidents, as defined in ICMI's Definitions and Acronyms document, and the criteria that will be used to notify ICMI. Pinos Altos has not had any significant cyanide incidents to report this audit cycle.

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

☒ **in full compliance with**

**The operation is**

☐ in substantial compliance with **Standard of Practice 7.5**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 7.5; incorporate remediation measures and monitoring elements into response plans and account for the additional hazards of using cyanide treatment chemicals.

The CSC procedure describes specific remediation measures as appropriate for the likely cyanide release scenarios. Pinos Altos does not contemplate the neutralization of soils or other contaminated media. Recovered solutions would be returned to the process circuit and cyanide-impacted soil would be placed on the HLF. Pinos Altos supplies bottled water at the mine. There are no nearby communities whose water supply could be affected by a release. Therefore, provision of an alternative water supply does not apply.

The AERP prohibits the use of chemicals, such as sodium hypochlorite, ferrous sulfate, and hydrogen peroxide, to treat cyanide that has been released into surface water.

Pinos Altos has prepared procedures that address environmental monitoring to identify the nature and extent of a cyanide release. The procedures for surface and groundwater sampling and controlling cyanide spills address sampling methods and cyanide species for surface water, groundwater, and soil, respectively. The endpoint for removing contaminated soil is 0.5 milligrams per kilogram WAD cyanide. Sampling locations are to be determined considering the environment and the areas at risk.

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

☒ **in full compliance with**

**The operation is**

☐ in substantial compliance with **Standard of Practice 7.6**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 7.6; periodically evaluate response procedures and capabilities and revise them as needed.

Pinos Altos has reviewed and evaluated the cyanide-related elements of their emergency response procedures on a regular basis. Each procedure and/or plan for emergency response has a change control section that shows the revisions made to each procedure or plan during this recertification period.

Mock drills have been conducted periodically to test response procedures for various cyanide exposure and release scenarios. Drills have included release scenarios, such as HCN release and cyanide spill scenarios, as well as worker inhalation and dermal exposure scenarios. After each drill, a report has been prepared with the deficiencies and corrective actions identified. Drills have been held at least once a year and have been evaluated to determine the adequacy of planned actions and training of response personnel and have resulted in improvements to the operation's response plans.

Pinos Altos has determined the provisions under which it must update its emergency plans and programs. These provisions have been carried out annually by procedure, and when important corrective actions are detected after each drill. Pinos Altos has not had incidents related to cyanide during the recertification period and therefore has not updated its plans as a result of an actual incident.

# PRINCIPLE 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:**

The operation is in full compliance with Standard of Practice 8.1; train workers to understand the hazards associated with cyanide use.

Pinos Altos has trained personnel and contractors in cyanide hazard recognition regardless of their position. Pinos Altos has a structured induction process that includes area inductions and a cyanide awareness training program. The Important Facts About Sodium Cyanide Course is a requirement for personnel and contractors. The course covers hazard recognition, cyanide use, emergency response, and PPE. The course includes a knowledge assessment that is completed by each participant and is kept in the employee's training file. This training is only valid for one year and contractors and employees are required to complete annual refresher training. A review of training records and the TRESS database showed that cyanide training and refreshers have been conducted as required.

Pinos Altos utilizes the TRESS database to retain training requirements and records. Hardcopies of training quizzes/assessments (understanding and competence) and other training documents are also kept in an employee's personal training file.

**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:**

The operation is in full compliance with 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.

Pinos Altos has trained workers to perform their normal production tasks, including unloading, mixing, production, and maintenance, with minimum risk to worker health and safety and in a manner that prevents unplanned cyanide releases. The training is carried out according to annual training matrices that lists each operational

procedure required for a worker's job description. The task training is provided by the area supervisor, using the procedures as training material, followed by assigning the worker to perform the tasks with an experienced operator while being observed by the supervisor. After three months of this process, the worker is evaluated to see if he/she is competent to work alone. The training elements necessary for each job involving cyanide management have been identified in the training materials (i.e., the standard operating procedures).

Pinos Altos has used qualified personnel to provide job training related to cyanide activities. Dedicated trainers with years of experience have been used.

Pinos Altos has trained employees and contractors prior to being able to undertake any kind of work in areas where they may encounter cyanide. The General Introduction to Sodium Cyanide, Important Facts About Cyanide training package is the primary course by which refresher training is provided. Refresher training has been completed annually.

Pinos Altos has evaluated the effectiveness of cyanide training by testing and observation. Workers must pass written exams and be observed by supervisors in the field for approximately three months before they are allowed to work independently.

Pinos Altos has retained training records in digital and hard copy formats in the training database and worker's individual files, respectively. The records include the names of the employee and the trainer, the date of training, the topics covered, and if the employee demonstrated an understanding of the training materials.

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

**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:**

The operation is in full compliance with Standard of Practice 8.3; train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

Pinos Altos has trained cyanide unloading, mixing, production and maintenance personnel the procedures to be followed if cyanide is released. The emergency responses are detailed in the CSC and ERPCS trainings provided every year. Process staff have completed training on decontamination and the use of antidotes and oxygen until the ERT arrives.

Pinos Altos has trained the brigade leaders and members in the emergency response procedures, including the use of response equipment. Members of the ERT have been trained in cyanide emergency response plans and procedures in addition to hazardous materials, firefighting, and others. The ERT training is provided internally and by external entities dedicated to specialized emergency response training.

Pinos Altos has made external responders familiar with the elements of the cyanide emergencies. The nearest hospital is aware of its responsibilities. Even though no other external entity has an assigned onsite responsibility, Pinos Altos has provided training on its emergency response plan for cyanide poisoning to representatives of the Red Cross, firefighters, and local hospitals.

Pinos Altos has completed refresher training for response to cyanide exposures and releases annually. All personnel, regardless of the area where they work, take the inductions and annual refreshers on response to cyanide exposures and releases in addition to their work procedures in their respective areas.

Records are retained throughout an individual's employment documenting the training they received on their electronic database, the TRESS system. The records include the names of the employee and the trainer, the date of training, the topics covered, and if the employee demonstrated an understanding of the training materials.

# PRINCIPLE 9 – DIALOGUE

## Engage in Public Consultation and Disclosure

**Standard of Practice 9.1: Promote dialogue with stakeholders regarding cyanide management and responsibly address identified concerns.**

☒ **in full compliance with**

**The operation is**

☐ in substantial compliance with **Standard of Practice 9.1**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 9.1; promote dialogue with stakeholders regarding cyanide management and responsibly address identified concerns.

Pinos Altos has provided stakeholders with opportunities to communicate issues of concern. The Community Relations staff are responsible for managing the interactions between the local community and Pinos Altos. Interactions are documented by their staff. Routine interactions include trainings, meetings, and site visits.

Pinos Altos has established community offices in Yepachi and Jesús del Monte where people can communicate concerns. Pinos Altos has provided flyers describing its cyanide activities to the people from the communities. This flyer has site contact information.

At the corporate level, Agnico Eagle has electronic means of communication on their website where stakeholders can express their concerns, doubts, and complaints.

Pinos Altos has also issued articles in magazines that describe presentations and informative talks regarding cyanide management, social support, and new projects.

**Standard of Practice 9.2: Make appropriate operational and environmental information regarding cyanide available to stakeholders.**

☒ **in full compliance with**

**The operation is**

☐ in substantial compliance with **Standard of Practice 9.2**

☐ not in compliance with

**Summarize the basis for this finding:**

The operation is in full compliance with Standard of Practice 9.2; make appropriate operational and environmental information regarding cyanide available to stakeholders.

Pinos Altos has developed a written description of how cyanide is managed in the form of a flyer called “Responsible Management of Cyanide in Mining”, which has been posted on the notice board in the administration building and distributed in communities nearby. The Agnico Eagle corporate website has

descriptions of the process facilities at Pinos Altos, including flow diagrams of the different operating areas where cyanide is used.

Pinos Altos has given oral presentations to communities to discuss emergency response plans and cyanide risks even though the percentage of illiterate people above 15 years old is low in the municipality of Ocampo based on government statistics.

Pinos Altos has developed mechanisms to make information publicly available on cyanide releases or exposures when applicable. As of the time of the audit, Pinos Altos has had no reportable incidents during the recertification period due to cyanide releases and exposures.

Pinos Altos has reporting procedures in the emergency response plans and procedures to follow in case of cyanide releases and/or exposures, as well as a communication procedure for general purposes. Pinos Altos is also required by Mexican law to report releases of, and exposures to, hazardous materials, including cyanide. In case of cyanide exposures to workers, cyanide releases off the mine, and cyanide releases on or off the mine site resulting in significant adverse effects to the environment, Pinos Altos would report the details of the incident to Mexican environmental enforcement agency (Procudaria Federal de Proteccion Abmiente) and the Mexican labor agency (Secretaria del Trabajo y Prevision Social). These entities would then make the information available to the public.

# Signature Page

**Golder Associates USA Inc.**

Kent R. Johnejack
*Lead Auditor/Mining Technical Specialist*

KJ/IA/rm



https://golderassociates.sharepoint.com/sites/148595/project files/06_deliverables/03_sar/rev1/21470769-003-r-1-sar_pam_04mar22.docx


golder.com