# ICMI Cyanide Code Gold Mining Recertification Audit

# **Summary Audit Report**

# La Herradura Mine – Minera Penmont S. de R.L. de C.V

Sonora - Mexico

Submitted to:
The International Cyanide Management Institute
1400 I Street, NW – Suite 550
Washington, DC 20005
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2021 Audit Cycle



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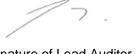
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Mining Operation: La Herradura Mine

Mine Owner: Fresnillo Plc

Mine Operator: Minera Penmont S. de R.L de C.V.

Name of Responsible Manager: Jose Arturo Arredondo Morales, General Manager

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#### Location and description of the operation

The location of the La Herradura mine is presented in the picture below.



La Herradura is operated by Penmont which is a wholly-owned subsidiary of Fresnillo. La Herradura is located in the Altar Desert approximately 80 kilometers (km) northwest of the city of Caborca and 20 km from the coast of the Gulf of California in the state of Sonora, Mexico. The nearest village (Ejido Juan Alvarez) is located approximately 5 km to the northeast of La Herradura. The Altar Desert is extremely arid and there is no surface water.

Exploration at La Herradura dates back to 1987. La Herradura began construction in 1997 and began operation in 1998. The reserves were found to reach 50 million tons with a gold grade of 1 gram of gold per ton, amounting to 1.15 million recoverable ounces.

La Herradura is an open pit gold mine with a heap leach pad, Merrill Crowe Plant, two pregnant solution ponds, three contingency ponds, and associated pipework. A new underground mine along with a Dynamic Leaching Plant, Tailings Impoundment and Merrill Crowe Plant have been constructed and added to the Penmont's operations. However, these facilities are not connected to La Herradura Merrill Crowe Plant and heap leach facilities, and therefore, are outside of the scope of this audit.

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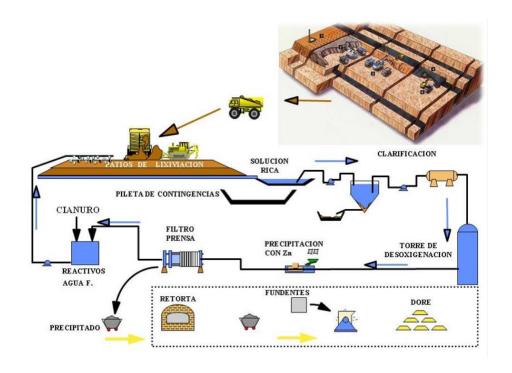


The run-of-mine mineral from the open pit is sent directly to the heap leach pad. The mine has one heap leach pad which has been sub divided into 13 phases. The leach pad was constructed with a composite liner of compacted clay and geomembrane. Once in the leach pad, a cyanide solution is applied by drip irrigation.

The pipelines between the leach pad and plant are contained within a geomembrane liner. The pump stations are constructed of concrete with leak detection sumps. There are two pregnant solution ponds and three contingency ponds (i.e., Contingency Pond 1, Contingency Pond 6, and the Megapond). The pregnant ponds are double lined (geomembrane) with leak detection, collection, and recovery systems. The contingency ponds are single lined (geomembrane).

The pregnant solution from the pad is processed in a Merrill Crowe plant. This plant has an isotanker system for preparing cyanide. The isotanker facility has a dilution tank, storage tank, and dosification tank within a single secondary containment. The Merrill Crowe Plant also has a pregnant solution column, filter wash tanks, clarifiers, a deoxygenation tank, a zinc cone, and barren tank. There is no barren pond and no carbon in leach is required due to the composition of the ore. The barren tank is within a separate secondary containment along with the clarifiers and pressure filters. The plant, including all areas with tanks, is lined with reinforced concrete. The process facilities also include two concrete sedimentation ponds to manage the washdown solution and sediments from the clarifiers.

The La Herradura mine ore processing flowsheet is presented below:



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#### **Auditor's Finding**

The ICMI-approved Audit Team verified that the La Herradura operation is in FULL COMPLIANCE with ICMI Cyanide Code requirements for Mining operations.

La Herradura has experienced zero significant cyanide incidents during this 3-year recertification audit cycle.

This operation was determined to be in FULL COMPLIANCE with the International Cyanide Management Code.

#### **Auditor's Attestation**

Audit Company:	SmartAccEss Socio Environmental Consulting, LLC
Lead Auditor:	Luis (Tito) Campos
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Mining Technical Auditor:	Bruno Pizzorni
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Date(s) of Audit:	Feb 1 - 4 <sup>th</sup> , 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 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 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 Institute for Mining Operations Verification Protocol and using standard and accepted practices for health, safety and environmental audits.

<u>La Herradura Mine</u> Name of Operations

Signature of Lead Auditor

Feb 4<sup>th</sup>, 2021

Date

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Signature of Lead Auditor



#### DETAILED AUDIT REPORT

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 ☐ in substantial compliance □ not in compliance with Standard of Practice 1.1

Discuss the basis for this Finding/Deficiencies Identified:

La Herradura purchases cyanide from The Chemours Company Mexicana, S. De R.L. De C.V. (Chemours) that is a subsidiary of The Chemours Company (formerly E.I. DuPont de Nemours and Company). Cyanide is manufactured by Chemours coproducer Australian Gold Reagents Pty Ltd., Australia (AGR). La Herradura has a current supply agreement with Chemours covering the recertification period. This supply agreement contain under Section 13 language requiring that the cyanide be produced at a facility that has been certified as being in compliance with the Code. The auditor reviewed a copy of the supply agreement covering the period from January 1, 2017 to December 31, 2021.

Cyanide purchased by La Herradura is manufactured by Chemours coproducer Australian Gold Reagents Pty Ltd., Australia (AGR), a facility that is currently certified under the Code. Their most recent recertification was obtained on September 22, 2020.

Cyanide purchased by La Herradura is manufactured by AGR, a facility that is currently certified under the Code. Their most recent recertification was obtained on September 22, 2020. No independent distributors have been part of the cyanide supply chain during the recertification period. The auditor reviewed the supply agreements, bills of lading, and invoices to confirm this.

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

#### Standards 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.

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The operation is: ■ in full compliance

□ in substantial compliance

□ not in compliance with Standard of Practice 2.1

Discuss the basis for the Finding/Deficiencies Identified:

The agreement for cyanide purchasing also includes transportation to the mine site. According to clauses 13 and 17 of the current supply agreement, all of Chemours and coproducer AGR transportation personnel, distributors, and contract carriers must comply with Code requirements. Even though the current supply agreement does not specifically mention the specific ICMC requirements, it can be reasonably inferred that the agreement requires that they be addressed via the overall requirement that transporters, distributors, and carriers comply with the Code.

In any case, all parts of the supply chain have been certified to the Code, thereby confirming the Code requirements have been met. The cyanide supply chain, as described in an August 2020 letter from Chemours to Minera Penmont, is detailed below:

- Cyanide coproducer AGR's West Australian Supply Chain, recertified in November 15, 2019, is from AGR's Kwinana production facility, using rail and road transport to end user mine sites in Western Australia; as well as road transport to Fremantle Port using the certified transporters Qube Bulk and Toll Global Logistics. For export product this supply chain is up to and includes the stevedore operation at Fremantle Port.
- Transportation between Fremantle to Manzanillo ports by shipping companies Hapag Lloyd and Mediterranean Shipping Co. (MSC), is included in the Chemours' Global Ocean Supply Chain. Chemours Global Ocean Supply Chain has been extended to August 31, 2021 due to health concerns and travel restrictions resulting from the COVID-19 virus.
- Truck transport from Manzanillo port to the Chemours warehouse in Hermosillo is with Transportes Especializados Segutal. Both the transporter and the warehouse are included in Chemours' Mexico Supply Chain. The deadline for conducting the recertification audit for Chemours' Mexico Supply Chain has been extended to June 30, 2021 due to health concerns and travel restrictions resulting from the COVID-19 virus.
- Transportation from Hermosillo to the mine site with is with Transportes Especializados Segutal.

Regarding addition of colorant dye to cyanide, the auditor reviewed a letter from Chemours dated April 22, 2019, informing that upon request of Minera Penmont, from May 19, 2019 The Chemours Company will add red dye colorant to all isotanks with cyanide to be sent to their operations, including La Herradura, in order to comply with the ICMI's requirement to use colorant to help identifying any cyanide solution leak in the lixiviation process and with the addition of this material will comply with this requirement. The letter also states this will honor the cyanide supply agreement held with The Chemours for the period 2017 – 2021 that obliges them as their cyanide suppliers, to comply in the same way with the International Cyanide Management Code. The invoice also states that cyanide is being delivered with red dye.

According to clauses 13 and 17 of the current cyanide supply agreement, all of Chemours transportation personnel, distributors, and contract carriers must comply with Code

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requirements. It states that the designated responsibilities extend to any subcontractors used by the producer, distributor, transporter or the operation for transportation-related activities.

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

□ in substantial compliance
□ not in compliance with Standard of Practice 2.2

Discuss the basis for the Finding/Deficiencies Identified:

Clause 13 of the current contract indicates that the Seller is responsible for all aspects of transportation of cyanide to the mine site. The contract also establishes a commitment of the seller to maintain ICMC certification and signatory status.

During the audit, it was verified through the ICMI's website, that all cyanide transporters involved in Chemours cyanide supply chain to la Herradura were currently Code certified companies:

- AGR Western Australian Supply chain was recertified November 15, 2019.
- The Chemours Global Ocean Supply Chain has been extended to August 31, 2021 due to health concerns and travel restrictions resulting from the COVID-19 virus.
- The Chemours Mexico's certified supply chain certification was extended until June 30, 2021.
- Transportation from Hermosillo to the mine site with Segutal, included in Chemours Mexico's certified supply chain.

La Herradura maintains all records of the chain of custody documents from the producer, the maritime transporter and land transporters that handle the cyanide brought to its site, identifying all the parties in the supply chain. The auditors reviewed bill of lading documentation covering the recertification audit, finding them in conformance.

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

#### Standards of Practice

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 3.1

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Discuss the basis for this Finding/Deficiencies Identified:

La Herradura has an isotanker offloading facility and a flobin system. The isotanker system is the actual cyanide offloading system as the mine only purchased cyanide in isotanker during this recertification period. The flobin system remains as a backup system only. The isotanker offloading facility consists of below-grade concrete truck ramp with a sump, an at-grade concrete containment facility with a sump, and three cyanide tanks within the concrete containment (i.e., a dilution tank, a storage tank, and a dosification tank). No changes in the cyanide unloading, storage and mixing facilities have occurred since the previous recertification audit where was found fully compliant.

The unloading systems area located away from people, the nearest office where people congregates is about 50 m and the potential for exposure is negligible. The nearest village is located approximately 5 km to the northeast of La Herradura and upstream and upgradient of the mine. The mine is located in the Altar Desert and 20 km from the coast of the Gulf of California in the state of Sonora, Mexico. The Altar Desert is extremely arid and there is no surface water.

The isotankers are offloaded on a concrete ramp to minimize seepage to the subsurface. The mine provides periodic maintenance to these concrete surfaces, sealing any cracks that occur to minimize the risk of seepage to the subsurface.

The isotankers are offloaded on a concrete ramp that slopes downward such that the isotanker is below grade during the offload. A trough at the low end of the ramp is designed to route solutions to a sump with a pump for returning any leaked solutions and/or washdown water to the dilution tank. Because the ramp is below grade, there is no potential for outflow.

La Herradura has installed level indicators and high level alarms to prevent the overfilling of the cyanide tanks. Both the isotanker offloading facility and the flobin system use the same mix, storage, and dosification tanks are equipped with level sensors to prevent overfilling. The levels sensors report to the control room are set for a high level at 70-80% and a high-high level at 90%, above this level the pump will shut off. The dilution, storage, and dosification tanks at the isotanker facility are also equipped with level sensors to prevent overfilling. These sensors report to the plant control room and are set at a high level of 90% and a high-high level of 95%.

All cyanide tanks at the cyanide mixing area facility are located on reinforced concrete pads that are adequate barriers to prevent seepage to the subsurface. During the field inspection, the containment area was noted to be in good condition, with no significant damage, spalling or cracking evident.

La Herradura has constructed the secondary containments for all of the cyanide mixing and storage tanks of the cyanide mixing area of reinforced concrete and are covered by an industrial sealant. No changes or modifications have been made to the secondary containments since the last recertification audit. The auditors observed that the secondary containments were in good condition.

During this recertification period La Herradura only purchased cyanide in isotanker. No solid cyanide is stored in the mine site. The cyanide solution is stored in tanks in open air which

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provides adequate ventilation, minimizing the potential for contact of cyanide with water, within two layers of fencing around the plant, thus effectively preventing public access and in an area with no other materials stored in the vicinity, thus eliminating the potential for mixing of incompatible materials.

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
□ in substantial compliance
□ not in compliance with Standard of Practice 3.2
.
Discuss the basis for this Finding/Deficiencies Identified:

The offloaded isotankers promptly return to the Chemours warehouse in Hermosillo, thus eliminating the potential for unauthorized reuse. There are no bags or inner liners in the isotankers, and therefore rinsing and disposal are not required. The isotankers return to the Chemours warehouse in Hermosillo, thus eliminating the need to dispose of empty containers. The top of the isotanker is washed off after the isotanker is disconnected at the end of offloading.

La Herradura has developed and implemented procedures to prevent exposures and releases during unloading and mixing describing the measures for safe operation of tank levels and valves during an isotanker offload. The procedure for cyanide preparation states to make an inspection before the sparging operation to ensure the isotanker is in good conditions. No isotankers are not stacked in the site. The procedures describes the measures for safe and timely clean-up of spills of cyanide solutions. The procedure for cyanide preparation specifies the personal must use specific personal protective equipment (PPE) and requires an observer to be present in the observation room for the isotanker system during the cyanide offload process, during a sparge task observation. The sparge operators use PPEs as required, an observer at distance. The mine provided refreshment training registers given to the plant to operators regarding this procedure. La Herradura has appropriate procedures and practices to handle and prepare cyanide solutions in a safe manner. Cyanide in the isotankers already comes with red colorant dye. The concentrated cyanide solution mixed on site has a red color for clear identification. This requirement was visually verified by the auditors during the field visit.

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

Standards of Practice

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4.1 Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures.

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

Discuss the basis for the Finding/Deficiencies Identified:

La Herradura has developed and implemented written management plans and procedures for their cyanide facilities: heap leach pad; process ponds; pregnant solution ponds; contingency ponds; primary reagent cyanide system including an isotanker offloading; Merrill Crowe Plant, including a barren tank, zinc cone, deoxygenation tower, clarifiers, sedimentation cells, and filter presses: booster stations, associated pipelines, pumps, valves, and related accessories.

La Herradura has developed plans and procedures that identify the design and operating criteria for safe management of cyanide. The operating procedures describes design and operating criteria as a target of 30 to 60 ppm free cyanide for solution passing the filter presses, the process ponds should be operated up to 3/4 of their volume capacity during normal conditions, targets for cyanide solution rates application on the leaching pad surface, a pH target of greater or equal to 10.0 standard units (su), for mixing cyanide specifies a pH of greater than 10.5 su for offloading. The procedure for environmental aspects, dangers, and risks lists the generally applicable Mexican regulations.

La Herradura has developed procedures describing the standard of practice necessary for the safe and environmentally sound operation of the cyanide facilities, including the specific measures needed for compliance with the Code and regulatory requirements. Preventive maintenance programs have been developed for the key cyanide elements. The mine has developed and implemented inspection and preventive maintenance programs for all the cyanide facilities including cyanide unloading, mixing and storage facilities; the plant, the heap leach pad, the process ponds, and the booster stations. Inspections are conducted on a daily to weekly basis depending on the facility and type of inspection, according to that indicated in the procedures.

La Herradura has prepared and implemented a written procedure for managing changes in facilities or practices. The procedure covers environmental and safety aspects, and includes a form (PS-HE-01-R03) that must be filled out and signed by the initiator of the requested change and the environmental/safety manager

La Herradura has developed and implemented procedures that address upset conditions, contingencies and temporary shutdown of the plant. Procedures addresses the measures to be taken when the pregnant pond overflows to the contingency ponds and spills to natural ground; upset conditions at the irrigation pads such as slope failure, pipeline breaks, and spills from pipeline secondary containment; for stopping and starting the plant for scheduled and unscheduled shutdowns at the plant, for equipment failures and when a temporary closure or cessation of operations may be necessary.

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La Herradura has a written procedure to inspect the cyanide facilities regularly. The inspection frequencies are daily to weekly, as well as per event, which the auditors consider adequate to assure and document that equipment and facilities are functioning as intended. The inspection frequencies and the responsible parties are summarized below. The auditors reviewed the procedure and examples of completed forms from throughout the recertification period verifying compliance.

La Herradura inspects the mixing and process areas. Daily inspections are conducted to tanks holding cyanide solutions for signs of corrosion, deterioration, leaks, or salts, also conducts tank integrity testing annually. Secondary containments are inspected daily for signs of solution or precipitates, as well as inspection for signs of poor integrity such as cracks. Leak detection and collection systems at the booster pumps and ponds are inspected weekly, checking the volume as well as the condition of the system. Pipelines, pumps, and valves at the plant and pad are inspected specifically requires inspection for signs of corrosion, deterioration, leakage, salts, and spills from pipes, pumps, and valves. It also lists inspection requirements for valves in their correct position with locks. Ponds are inspected for the condition of the liner and water levels.

Inspections are documented, the forms include the name of the inspector, date and observed deficiencies. The auditors reviewed completed inspection forms and checklists for the recertification period to verify compliance. Any observed deficiencies during the inspections have to be communicated to the maintenance department. Completion of the corrective actions is noted in the maintenance software.

La Herradura has implemented a maintenance program via the MAXIMO software that includes both preventative maintenance and corrective maintenance. The program includes the elements necessary for cyanide safety management including HCN monitors, pH meters, tank level indicators and alarms, sumps floating level, tanks and pumps.

La Herradura does not maintain backup power at the site. They have constructed one large pond and two smaller ponds that provide up to 22 hours of capacity under contingency conditions. That amount of time is considered adequate to either restore power or bring in portable generators, given the mine's proximity to vendors in the United States. In addition, La Herradura has the ability to obtain power from another public power source from the Mexican Federal Commission in case of a failure of their primary Mexican Federal Commission power source, with which La Herradura could operate the critical equipment, including the pond pumps.

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

☐ in substantial compliance

□ not in compliance with Standard of Practice 4.2

Discuss the basis for this Finding/Deficiencies Identified:

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Not applicable. This Standard of Practice solely applies to milling operations.

4.3 Implement a comprehensive water management program to protect against unintentional releases.

The operation is: ■ in full compliance

□ in substantial compliance

□ not in compliance with Standard of Practice 4.3

Discuss the basis for the Finding/Deficiencies Identified:

The mine has implemented a comprehensive water balance to track solution storage in the ponds and take into account leaching flows and meteoric events including storms, plus a mechanism to anticipate provision of adequate freeboard. The content and organization of the water balance spreadsheet can be considered comprehensive in that covers a considerable range of operational parameters that govern how the leach pad is managed and thereby the associated inflows and losses, and storage requirements. The water balance can be considered probabilistic because it considers the expected rainfall plus a 100-year, 24-hour storm event superimposed on the facility.

The water balance accounts for leaching application rates projected through life of mine. The operations staff estimates the irrigation cycle according to the calculation of the retention time of the mineral in leaching. The operational water balance incorporates an updated 100-year/24-hour storm event (1-percent chance of occurring in any given year). The water balance considers in a reasonable manner and as appropriate for the facilities and environment the quality of existing precipitation and evaporation data in representing actual site conditions. Meteorological data is updated from three stations. All upgradient runoff is naturally diverted around the facilities by the raised construction of the pad and ponds which is reflected in the water balance.

Freeze-thaw is a non-issue for this site due to local climate conditions. Decant, drainage and recycling, seepage and discharge are not applicable to the leaching facilities at La Herradura. Pond sizing, based on the water balance spreadsheet, is assessed in terms of the time required to pump out the ponds following the occurrence of the design storm event imposed on the estimated inventory of the ponds. The pumping time required is variable based on the monthly inventory estimated to be 22 hours. Treat and discharge systems are not employed at La Herradura. The phreatic surface is not applicable to the water balance because of the significant depth to groundwater in this desert area.

The operating procedures incorporate inspection and monitoring activities to implement the water balance and prevent overtopping of ponds and impoundments. A level sensor is used to measure the pregnant pond storage level on an hourly basis. The mine provided graphs that show the solution level for each pregnant solution pond and compared against the overflow pond invert elevation, thus indicating this is monitored and efforts are applied to maintain required freeboard limits. The contingency ponds are also monitored visually.

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Ponds are operated maintaining adequate freeboard. The solution levels in the solution ponds were reported more than 90 percent of the time below the invert elevations of their spillways. The La Herradura Mine has 3 contingency ponds and they were designed with 0.5 m of freeboard. Contingency ponds 1 and 2 are used during plant maintenance shutdowns or prolonged power outages. They have level sensors and there are daily visual plant walk inspections. The megapond has not been used to date.

Precipitation data from the weather station at the site identified as "LH" has been processed and average precipitation per month has been computed. The results were compared against the precipitation data used for the design. A comparison of site values versus design values exists in the form of a graph presenting data for the past 3 years. The graph shows precipitation values for the recertification period.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 4.4

Discuss the basis for the Finding/Deficiencies Identified:

La Herradura has implemented measures to restrict wildlife and livestock access to the pad, ponds, and plant. The northeast perimeter of the mine property adjacent to Ejido Juan Álvarez and El Bajío property, is fenced by barbed wire and 6 x 6-inch wire mesh four foot high fence to prevent access by large wildlife and livestock. Monitor motion sensors are installed along this fence to alert security of human, wildlife, or livestock incursions.

All ponds (pregnant and contingency) are surrounded by a chain link fence built on a concrete curb to prevent burrowing by animals. The fence has a tighter weave near ground level to prevent small animal access.

The plant is surrounded by chain link fences to prevent human, wildlife, and livestock access.

Pregnant solution is conveyed in piping between the leach pad and pregnant pond to prevent wildlife access.

The headworks (upstream of the pregnant pond) that collect pregnant solution are screened to prevent wildlife access.

Pregnant Pond 1 and 2 are covered with netting, although the concentration of WAD (Weak Acid Dissociable) cyanide in all ponds was less than 50 mg/l. The auditors observed all of these measures to be in good condition during the site visit.

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La Herradura provided a complete set of analytical data for WAD cyanide from the pregnant and contingency ponds for the recertification period. Samples were collected every month for analysis by an outside laboratory. The contingency pond samples were collected at Contingency Pond 1 and 2 and thus represent the other downstream ponds. Analytical data showed WAD cyanide concentrations were maintained below 50 mg/l throughout the recertification period.

La Herradura inspects for wildlife mortalities daily. The leader of the security and ecology department, stated that there have been no wildlife mortalities attributable to cyanide intoxication in the past three years. The auditors did not observe any distressed or dead wildlife at the pad, ponds, and plant during the site visit.

La Herradura has developed and implemented a written procedure that reduces the potential for significant ponding on the top of the leach pad. The procedure includes cell cleaning, ripping, levelling, and ripping to enhance infiltration and prevent ponding. The procedure also includes operational measures to reduce the potential for ponding or to reduce the risk to wildlife, such as modifying the application rate, solution pH, and WAD cyanide concentration. La Herradura uses drip irrigation, which eliminates the potential for overspray. The auditors observed no significant areas of ponding in the active cells during the site visit.

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

□ in substantial compliance
□ not in compliance with Standard of Practice 4.5

Discuss the basis for the Finding/Deficiencies Identified:

The operation has no direct or indirect water discharge. Also, is no surface water in the vicinity of the mine due to the extreme aridity.

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

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

Discuss the basis for the Finding/Deficiencies Identified:

To reduce the potential for seepage to groundwater, La Herradura has implemented the following measures:

 The leach pad was constructed with a composite liner of compacted clay and geomembrane.

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- The pipelines between the leach pad and plant are contained within a geomembrane liner.
- The plant floor is constructed of concrete, as are the floors of the cyanide mixing area. Secondary containments of the cyanide tanks have a sump pump to return any spilled solution to the process circuit.
- The pregnant ponds are double lined (geomembrane) with leak detection and collection system.
- The sedimentation ponds are concrete lined with concrete secondary containment for the pipelines to them.
- The contingency ponds are single lined (geomembrane).

La Herradura has installed eight monitoring wells around the leach pad, plant, and ponds, of which four are located downgradient. Analytical results for the recertification period showed total cyanide concentrations less than the 0.02 mg/l standard. In general values were below lab detection limit of 0.012 mg/l and/or the wells were dry. Cyanide concentrations are reported to the regulators annually.

The groundwater standard promulgated by the Mexican authorities (PROFEPA- Procuraduría Federal de Protección al Ambiente) is 0.02 mg/l total cyanide for irrigation use, as indicated on the annual groundwater monitoring tables that La Herradura submits to the regulators and the Environmental Manifest approved by SEMARNAT (Secretaria de Medio Ambiente y Recursos Naturales).

La Herradura does not have mill tailings and do not perform underground backfill. No seepage from the operation has caused cyanide concentrations of ground water to rise above levels protective of beneficial use. Concentrations of cyanide in groundwater have not exceeded the regulatory standards.

4.7 Provide spill prevention or containment measures for process tanks and pipelines.

The operation is: ■ in full compliance ☐ in substantial compliance □ not in compliance with Standard of Practice 4.7

Discuss the basis for the Finding/Deficiencies Identified:

La Herradura has provided spill containment measures all cyanide unloading, storage, mixing and process solution tanks. The dilution tank, storage tank, and dosification tank of the isotanker system are within the same concrete secondary containment. These tanks were installed on concrete floor inside a concrete ring. The secondary containment of these tanks was evaluated during the previous audits and found fully compliant. A sump returns any solutions to the process circuit. There have been no changes to the secondary containment system since then, and the auditors found the concrete secondary containment for the isotanker system to be in good condition and without visible cracks.

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In addition, La Herradura has provided spill containment measures for the barren tank, zinc cone, clarifiers, and all the other vessels at the Merrill Crowe Plant. The secondary containment was evaluated in the initial audit in 2011 and found fully compliant. The tanks were constructed on solid concrete bases.

The capacity of secondary containments of the Merrill Crowe Plant was evaluated during the initial audit in 2011 and found fully compliant. The capacity of secondary containment of the isotanker system tanks was evaluated during the previous audit in 2014 and found fully compliant. There have been no changes to the capacity of these secondary containments during the recertification period and therefore the original findings still hold.

La Herradura has installed sumps at the isotanker facility to return solutions to the process circuit. The below-grade offload ramp has a small sump with a dedicated pump. Any collected solution will be pumped to the secondary containment of the dilution, storage, and dosification tanks. This secondary containment has its own, larger sump, also with a dedicated pump. Any collected solution will be pumped to the barren tank. The auditors observed these sumps to be in good condition.

La Herradura has also provided a sump with a dedicated pump within the secondary containment for the mixing tank, storage tank, and dosification tank to the zinc cone. Any collected solution will be pumped to the Barren Tank. The Barren Tank is housed within the secondary containment for the clarifiers and pressure filters, and this area drains by a series of grated ditches to the main sump with a dedicated pump. Given that all solutions are contained within secondary containments and sumps for return to the process circuit, no written procedures are necessary.

All cyanide process tanks at La Herradura have concrete secondary containment.

La Herradura has constructed all cyanide solution pipelines between the Merrill Crowe Plant, process ponds, and heap leach pad with containment measures to collect leaks and prevent releases. The pipelines are constructed within concrete secondary containments, geomembrane lined ditches/areas, or outer HDPE pipe sleeves.

No cyanide pipelines present a risk to surface water because there is no natural surface water in the vicinity of the mine due to the extreme aridity.

La Herradura has constructed the tanks and pipelines with stainless steel and HDPE. In addition to these two materials, the cyanide feed lines from the isotanker system to the addition points at the plant are made of chlorinated polyvinyl chloride (CPVC) that is also a material compatible with the cyanide and high pH conditions of the isotanker facility.

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

☐ in substantial compliance

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□ not in compliance with Standard of Practice 4.8

Describe the basis for the Finding/Deficiencies Identified:

As in the previous audits the quality control and quality assurance (QC/QA) programs were evaluated for the following facilities, they do not needed to be re-evaluated for this recertification audit: the Isotanker facility, the Merrill Crowe Plant, Phases 1 to 12 of the heap leach pad, all the pregnant and contingency ponds. As required by ICMI, the auditor verified that the mine maintains the QC/QA files for these facilities.

For this recertification period, the auditor evaluated the QC/QA program for Phase 13 of the heap leach pad, the only new cyanide facility built during this recertification period. Complete QC/QA programs have been implemented by Geomex during the construction Phase 13 of the leach pad.

QC/QA reports contain full evidence of addressing material suitability, soil compaction testing, and liner installation QC/QA on the leach pad.

Appropriately qualified personnel reviewed the cyanide facility constructions performed during this recertification period and provided documentation that the facilities have been built as proposed and approved. La Herradura has retained copies of the QC/QA records associated with Phase 12 and 13 of the heap leach pad, as well as for the previous QC/QA programs implemented in the mine. La Herradura has retained these records in bookshelves at the Safety and Ecology Office Building and/or in electronic copies. The auditors observed the reports and/or review electronic copies of these reports to verify compliance.

La Herradura has retained copies of the QC/QA records associated with the Stage 12 of the heap leach pad, Pregnant Pond 2 and the containment system for the pumping station located between Pregnant Pond 2 and Contingency Pond 1. La Herradura provided QC/QAC documentation for all cyanide facilities.

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

☐ in substantial compliance

□ not in compliance with Standard of Practice 4.9

Describe the basis for the Finding/Deficiencies Identified:

La Herradura has developed and implement a written standard procedure for monitoring activities. The mine has also prepared and implemented a written procedures that includes wildlife monitoring and steps for reporting wildlife mortalities. They have also developed written procedures for water sampling, including groundwater monitoring. Because of the extreme aridity at the site, there is no monitoring program for surface water.

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The auditors reviewed water and groundwater monitoring reports from Analitica de Noroeste, S.A. de C.V and from ALS-Indequim S.A. de C.V (ALS) laboratories. External monitoring contractors are reputable laboratory with qualified professionals. Analitica de Noroeste, S.A. de C.V laboratory is certified by the Mexican agency in charge of such certifications (Entidad Mexicana de Acreditacion [EMA]). The auditors reviewed the EMA's website to confirm the laboratory's certification and verify compliance. ALS is accredited in ISO/IEC 17025:2017 Accredited Methods in North America.

The procedures describe the sampling equipment, calibration of field instruments, sampling collection procedures, QA/QC procedures, preservation, shipping instructions, cyanide species to be analyzed and chain of custody. The laboratories conduct the sampling on behalf of La Herradura; consequently, the laboratory staff transport the samples rather than ship them to the laboratory. The auditors reviewed examples of completed chains of custody and completed field forms for the recertification period to verify that the written procedure have been followed. The field forms, provided by both laboratories document the containers, preservatives, sampling equipment, calibration of field instruments, field parameters during purging, wellhead conditions, weather conditions, the list of constituents, observations of other conditions that may affect the sample integrity, and the chain-of-custody. The auditors reviewed examples of completed field forms for the recertification period to verify compliance.

La Herradura does not discharge to surface water. Furthermore, monitoring surface water is inapplicable because of the lack of surface water and the extreme aridity of the region. La Herradura monitors groundwater downgradient of the cyanide facilities every 6 months. No changes to the monitoring frequency have occurred since the previous recertification audit. Eight monitoring wells are located around the leach pad, plant, and ponds, of which four wells: are located downgradient. The auditors reviewed annual summary tables of groundwater monitoring results and a groundwater contour map to verify compliance.

La Herradura inspects for wildlife mortalities daily at the pad, ponds, and plant. The auditors reviewed completed field forms from throughout the recertification period to verify compliance, including wildlife monitoring for the pad, secondary containment canals for pipelines, and pumping stations, pregnant ponds, contingency ponds, sedimentation cells, and the plant area. The concentrations of Weak Acid Dissociable (WAD) cyanide in open water at La Herradura were less than 50 mg/l throughout the recertification period. La Herradura reported no mortalities during the recertification period.

La Herradura conducts monitoring at appropriate frequencies for each medium. Wildlife inspections are completed daily. Groundwater monitoring is conducted every 6 months and the results are submitted annually to Mexican regulators. La Herradura does not discharge to surface water, and because of the extreme aridity of the region, there is an absence of natural surface water.

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

#### Standards 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 ☐ in substantial compliance □ not in compliance with Standard of Practice 5.1

Describe the basis for the Finding/Deficiencies Identified:

La Herradura has a conceptual closure plan that includes decommissioning of cyanide facilities. The latest closure plan was updated in November 2020 by SRK Consulting. The Mexican government does not require mining companies to present a closure plan for approval until 2 years prior to closure. This conceptual plan is presented by La Herradura to the authorities as part of its annual environmental report.

The conceptual closure plan includes a section for decommissioning of cyanide facilities such as the Merrill Crowe plant, pipes and tanks, refinery, leach pads and solution ponds. Decommissioning activities include decontamination of equipment. Rinsing of heap leach pads with water is not included in the closure strategy; the heap leach pad will just be reshaped and reclaimed. There is no cyanide storage at La Herradura and as such, it is not considered as a reclamation item in the closure plan. No water treatment needs for cyanide facilities are considered for the post closure phase. Decommissioning activities include all the necessary steps to bring the facility's components to a safe, chemically stable condition, such that they do not present a risk to people, wildlife or the environment due to their cyanide content.

The La Herradura conceptual closure plan includes a general implementation schedule in Appendix D. It details the closure schedule in generic years, with three years of pre-closure activities, three years for closure activities and post closure activities from year 4 to year 20. Decommissioning activities and final closure are expected to last 3 years, considering dismantlement and demolition of the Merrill Crowe plant equipment, structures and foundations; and draindown of leach pad solution. This schedule will be refined in subsequent years as La Herradura gets closer to the closure phase. A more detailed closure plan will be submitted to the authorities for approval 2 years prior to closure.

La Herradura conducts reviews of the conceptual closure plan and associated costs every 2 years to conform to Penmont internal financial requirements. Local regulations do not require mining companies to conduct a periodic review of their closure plans. The plan is updated to reflect concurrent reclamation of certain areas of the mine and the addition of new mining areas, and revision of unit cost rates. The auditors reviewed the 2017 version of the closure plan, with an addenda issued in 2018. The most recent version is dated November 2020.

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5.2 Establish an assurance mechanism capable of fully funding cyanide-related decommissioning activities.

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 5.2

Describe the basis for this Finding/Deficiencies Identified:

La Herradura develops and updates every two years a closure cost estimate as part of Penmont's Asset Retirement Obligation (ARO) requirements. The auditor reviewed the 2020 conceptual closure plan developed by SRK Consulting, which includes in Appendix A, a total closure cost estimate of US\$ 135 million (MM). For 2017 and the 2018 addendum, the closure cost estimate was US\$ 79.7 MM and US\$ 83.7 MM, respectively. Main changes in the closure cost estimate between the 2018 and 2020 figures, is the inclusion of Leach Pad Stage 13 and the Stage 3 of the tailings facilities at the Dynamic Leaching Plant, which is outside of the scope of the recertification audit.

The costs were estimated using third-party rates from CAVI de Sombrerete S.A. de C.V., who is a contractor that is currently working at La Herradura. The conceptual closure plan includes a complete list of closure tasks, including decontamination, dismantlement and demolition of facilities with unit rates.

According to Penmont requirements, La Herradura reviews and updates every two years its closure costs, including decommissioning costs for cyanide facilities, as part of the Asset Retirement Obligation (ARO) cost estimation exercise. The current closure cost estimate is US\$135 MM, which is higher than the previous amount of US\$ 83.70 MM due to the inclusion of new facilities. The auditors reviewed updated cost estimates for 2017, 2018 and 2020.

La Herradura has established self-insurance as a financial assurance mechanism for closure activities, which includes decommissioning of cyanide related facilities. The 2020 closure cost estimate was under review by Ernst & Young at the time of the field audit. As such, the auditors reviewed a letter from Ernst and Young dated February 14<sup>th</sup>, 2019 verifying its conformance with the financial tests for a self-guarantee mechanism to cover the estimated costs for cyanide-related decommissioning activities. This letter considers the closure cost estimate of US\$ 79.7 MM, corresponding to year 2017. The self-guarantee amount for closure is greater than the estimated costs for decommissioning the cyanide facilities

Financial evaluation methodology used by the external financial auditor includes the assessment of the Asset Retirement Obligation (ARO) liability in the period it was incurred. The liability equals the present value of the expected cost of retirement/remediation. An asset equal to the initial liability is added to the Balance Sheet, and depreciated over the life of the asset. The result is an increase in both the assets and the liabilities. The auditors reviewed the statement from Ernst & Young and confirmed that the self-insurance was calculated including the estimated

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decommissioning cost and that the operation has sufficient financial strength to fulfill the selfinsurance obligation. The auditors also verified the professional certification of the financial auditor.

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

#### Standards of Practice

6.1 Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.

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

Describe the basis for the Finding/Deficiencies Identified:

La Herradura has developed operating procedures that describe the steps, controls and precautions to be taken in facilities where cyanide is used, that are aimed to minimize worker exposure to cyanide. These procedures provide detailed information on risks involved with each task and adequately describe safe work practices. Documented procedures have been prepared for mixing of cyanide solutions; operation of the heap leach pads and ponds; entry into confined spaces; equipment decontamination prior to conducting maintenance activities; stoppage and startup of the Merrill Crowe plant; among others.

There are approximately 20 procedures related to cyanide management. In addition, La Herradura has achieved ISO14001:2015 certification of its environmental management system in 2019 and ISO45001 certification for its safety management system. Both certifications are valid for three years.

La Herradura has standardized the development of procedures which includes a section with required personal protective equipment (PPE) for each activity. La Herradura developed a risk matrix to define required PPE for each activity. This risk matrix, dated September 2019, was developed in-house, meets local requirements, and is updated every two years.

The procedures include the following sections: Objectives, scope, definitions, responsibilities, tools/equipment to perform the task, personal protective equipment (PPE) required for each task, considerations of safety and health risks and environmental aspects, description of the tasks, registers, and log of changes to the procedure.

Prior to conducting an activity, a pre-work inspection is completed to help identify PPE needed for that activity. The auditors verified that a pre-work inspection was completed prior to the cyanide mixing event. Pre-work inspections for cyanide mixing were reviewed for the last 3 years

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and were found to be complete. Examples of permits for working in confined spaces (e.g. clean up of interior of cyanide distribution tank) were also reviewed.

In addition to the use of general PPE, such as hard-hat, steel toes shoes, and safety glasses throughout the mine site, areas and/or tasks where personnel may encounter cyanide have additional PPE requirements. It was verified during the audit that several procedures require the use of special PPE in activities or tasks where personnel may come into contact with cyanide. For example, it was confirmed that hard hat, hearing protection, rubber boots, rubber gloves, chemical suits, approved full-face respirator and HCN gas monitors were in use for tasks that were performed at the cyanide mixing area.

La Herradura has a procedure for management of change in MA-H-01 "Manual SSMARC (Salud, Seguridad, Medio Ambiente y Relaciones Comunitarias)" that includes the identification and review of the proposed changes; analysis and evaluation of the changes by a multidisciplinary team including health, safety and environmental aspects; sign-off by health, safety and environmental personnel, and approval and implementation of the changes. The process includes a format MA-H-01-R02 "Change management" which is signed off by all areas that participated in the evaluation of the changes.

La Herradura has implemented several mechanisms in which takes into account worker input for the development of health and safety procedures. Among those, the ones to highlight are:

- Beginning of Shift Meeting (Reunion de Inicio de Turno RIT), which consists of 5-minute safety talks, where safety and occupational health matters are discussed with the workforce prior to starting daily activities.
- Review of working cycles, which are conducted on a weekly basis, and where the supervisor verifies in the field through a task observation that the procedures are being followed. The supervisor provides feedback to the worker and completes a form, which includes a section for the worker to provide feedback on how to improve safety pratices. The auditors reviewed examples of completed working cycles reviews.
- Safety weekly meetings, where workers have the opportunity to provide opinions about safe work practices and procedures. These meetings were suspended in 2020 due to COVID-19 restrictions and La Herradura is planning to resume them as soon as practical.
- Review/training on procedures meetings, where the supervisor discusses the procedures with workers and operators, and they have the opportunity to provide feedback before the procedure is finally approved. Procedures are reviewed every two years.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 6.2

Describe the basis for the Finding/Deficiencies Identified:

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La Herradura has determined the appropriate pH for limiting the generation of HCN gas during cyanide mixing and other production activities. Specifically for the cyanide mixing activity, the procedure PO-PL-19 "Cyanide unloading from isotanker" indicates that during cyanide offload the pH should be in the range of 10.2 – 11 to avoid generation of HCN gas. Observation of the cyanide mixing event confirmed that pH in the cyanide mix tank was checked prior to initiate the activity. The pH values are monitored in the Delta V screen and from the control room.

Procedure PO-PL-07 "Heap leaching" indicates that solutions during leaching activities requires that pH is to be maintained at a minimum of 10 to maintain cyanide in alkaline solution and limit the generation of HCN. Lime is added to the ore to maintain the required pH levels during leaching.

Procedure PO-PL-13 "Monitoring of pH on leach solution from leach pads" indicates that pH values of solution collected at the bottom of the heaps needs to be above 7. Samples are taken every two hours and analyzed at the mine lab. La Herradura presented the auditors evidence that generation of HCN levels at the sampling locations were very low and that maintaining a pH > 7 was safe for the operators. Operators also carry portable HCN monitors to conduct this task.

La Herradura has 5 stationary HCN monitors MSA Serie Ultima X located at the cyanide mixing area, barren solution tank, reagents area, clarifier area, and precipitation area. Stationary HCN monitors are checked every shift by process personnel, and verified every month to ensure that the equipment is working properly. HCN monitors are calibrated every six months, according to recommendations of the manufacturer.

Personal HCN handheld monitors MSA Serie Ultima X (35 in total) are in use during operations where cyanide is present. 18 monitors are for the use of plant operators, and the other 17 are for use by the emergency brigade and the clinic. The Instrumentation area is in charge of maintaining and calibrating these handheld monitors.

Stationary and handheld HCN monitors are set up to produce a visual and sound alarms at 4.7 ppm and 10 ppm, respectively, to limit worker exposure to HCN. During the review of procedures, training materials, and observation of safety signage in the field, it was unclear what actions (e.g. stay away from the area or evacuate) should be taken at 4.7 ppm and 10 ppm. Soon after the field audit, La Herradura sent evidence that clarified that at 4.7 ppm HCN workers can remain working in the area for a 15 minute period maximum and leave the area for 10 minutes and return working for additional 15 minutes intervals as necessary. If the HCN concentrations reaches 10 ppm HCN, then the workers must evacuate the area and notify the supervisors and the Emergency Brigade. La Herradura updated procedures, training materials and signage in the field to reflect this. No additional actions are required to be in compliance with the Code.

La Herradura has identified the areas where workers may be exposed to cyanide in excess of 10 parts per million on an instantaneous basis and 4.7 parts per million continuously over an 8-hour period. La Herradura has conducted risk assessments, most recently in 2014, to identify the areas of potential worker exposure to cyanide and to evaluate the need for installing new stationary HCN monitors and/or relocating the existing monitors. The risk assessments were

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conducted using ambient air data and HCN concentration values measured with a portable HCN monitor at the areas where cyanide is used.

Procedures for cyanide handling during cyanide mixing and leaching process identify the potential for worker exposure to cyanide and require the use of the handheld HCN monitors as part of the required PPE. Signage listing the PPE requirements to enter a cyanide facility has also been installed at appropriate entrances.

HCN stationary and handheld monitors are calibrated on a regular basis and records are kept in the maintenance system called MAXIMO. Stationary cyanide monitors are verified every month to ensure that the equipment is working properly and are calibrated every six months. The Instrumentation area keeps records of calibration for the MSA Serie Ultima X stationary monitors. According to the manufacturer, these monitoring equipment should be calibrated every six months. Handheld HCN monitors are inspected every month to ensure that the alarms at 4.7 and 10 ppm are set and working properly; and calibrated every 3 months. According to the manufacturer, these monitoring equipment should be calibrated every six months.

Warning signs are posted in all areas where cyanide is present advising workers that cyanide is present and that smoking, open flames and eating and drinking are not allowed, and that, if necessary, suitable personal protective equipment must be worn. The signs are in Spanish, which is the language of the workforce. The PPE requirements are also posted in each area. Pictograms indicate the required PPE.

La Herradura receives cyanide from Chemours. Cyanide in the isotankers already comes with red colorant dye. The concentrated cyanide solution mixed on site has a red color for clear identification.

La Herradura has installed showers, eye wash stations and fire extinguishers at strategic locations throughout the operation in all areas where there is a potential for exposure to cyanide. Additionally, portable eye wash solutions were found at remote locations. Showers and eye wash stations are inspected on every shift by process personnel to ensure that they are operational and that water flows are adequate. The auditors checked showers and eye wash stations during the site tour to verify functionality and verified that they were inspected to ensure functionality prior to cyanide mixing. The auditors also reviewed records of checklists and inspections of showers and eye wash stations.

To protect against fire, dry chemical powder fire extinguishers are used where cyanide is present to prevent generation of HCN gas whilst extinguishing a fire. Fire extinguishers are inspected and tested monthly by an external contractor. Inspection records are kept visible with a check list tag attached to the extinguisher. The auditors randomly checked fire extinguishers to confirm they are an acceptable type for use with cyanide. All extinguishers observed were fitted with inspection tags, which documented monthly inspection checks.

La Herradura has identified tanks and pipes that contain cyanide solution to alert workers of their contents. Pipes containing cyanide are marked as containing cyanide solution, and flow direction is indicated. Labeling is typically located at places to easily identify and track the lines to identity contents. Cyanide addition points also have warning signs indicating that there is

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concentrated cyanide in the area and that smoking, open flames, and eating and drinking are not allowed.

Cyanide mixing, cyanide storage, cyanide distribution and process tanks are marked as containing cyanide. Signage warning of confined spaces in tanks has also been placed. The auditors followed the cyanide solution circuit from the cyanide mixing area to the heap leach pad facilities. For pipelines, flow direction arrows for cyanide bearing lines are used to allow personnel to understand the flow and possible exposures and/or response requirements to leaks and/or maintenance work.

La Herradura has available Material Safety Data Sheets and first aids procedures at critical areas where cyanide is managed. Binders with this information were available at various locations where cyanide is used. The information were found to be in Spanish, the workforce language at the site. The MSDS was provided by Chemours and the auditors verified that it corresponds to the latest version provided by the manufacturer. In addition to the MSDS sheets, signage is available to alert personnel to chemicals and required emergency response requirements in the high risk cyanide areas.

Procedure PS-HE-10 "Incidents" details the process to report, investigate and evaluate all accidents and incidents, including cyanide exposure incidents. This procedure documents the requirements to report and investigate health, safety and environmental related incidents to determine the basic causes of the incident and provide corrective and preventive actions to ensure that a similar incident does not reoccur. Accidents and incidents/near misses are classified according to its severity. Preliminary report forms are used to initially communicate the accident/incident. The accident/incident report is distributed within management staff. The incident investigation procedure was reviewed during the audit and was found to be comprehensive. Examples were available to show that several minor incidents had been appropriately investigated and corrective actions taken and followed up until they are closed. No cyanide related emergencies occurred during this ICMC recertification cycle requiring the implementation of the emergency response procedures.

6.3 Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

The operation is: ■ in full compliance

□ in substantial compliance

□ not in compliance with Standard of Practice 6.3

Summarize the basis for this Finding/Deficiencies Identified:

La Herradura has made available oxygen, a resuscitator, antidote kits, radios, telephones and alarm systems at critical areas where cyanide is managed. First aid kits including oxygen, masks, sodium nitrite and sodium thiosulfate are stored, together with MSDS and first aid procedures, at different locations including the observation room by the cyanide mixing area, the clinic, and the metallurgical lab.

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During the recertification period, La Herradura had to change the cyanide antidotes due to limited availability to procure amyl nitrite from external vendors. Until late 2019 La Herradura used amyl nitrite. Since that date, the first aid procedure consisted in the use of oxygen as immediate response and treatment with sodium nitrite and sodium thiosulfate. During preparation of this report, La Herradura sent evidence that the site has included again the use of amyl nitrite as cyanide antidote and has implemented small refrigerators for proper storage of the antidotes at the observation room by the cyanide mixing area, the clinic, and the metallurgical lab. The procedure PO-SM-03 "Treatment of worker intoxicated with cyanide" was also updated to reflect this recent change. The sodium nitrite and sodium thiosulfate was removed from the first aid kits and is only available at the clinic for use by medical staff.

Operators are required to carry a radio while performing their tasks in the most critical areas were cyanide is handled, such as the cyanide mixing facilities. Emergency notification would be via cellular phone or internal radio frequency and by telephones located within the Merrill Crowe Plant. The resuscitator is located at the site's clinic and in the ambulances. The ambulances also carries oxygen bottles. The clinic also has medical oxygen bottles, and cyanide antidotes (sodium nitrite and sodium thiosulfate).

First aid equipment are inspected on a monthly basis by medical personnel to ensure it is operational. This verification includes inspections of cyanide antidote kits (amyl nitrite, sodium nitrite and sodium thiosulfate) and first aid stations. Inspections include checks of expiration dates of cyanide antidote kits and storage at the recommended temperature range. The antidotes were all found to be within expiration date. Oxygen tanks were fully pressurized. The auditors reviewed inspection records of first aid equipment for the recertification period and found them to be complete.

La Herradura has procedure PO-SM-03 "Treatment of worker intoxicated with cyanide" that describes what is to be done in the event of a cyanide exposure. Specific instructions are provided to treat victims who are exposed to sodium cyanide via inhalation, ingestion, and dermal routes. Instructions detail the steps to be taken for first aid using oxygen and ambu bags (if required) and subsequent treatment of the victim with the cyanide antidotes, and evaluate the need to evacuate the victim to a local hospital once stabilized. Emergency contact information is included.

La Herradura has its own onsite capability (infrastructure, equipment and medical resources) to provide first aid and medical assistance to workers exposed to cyanide. The site has a complete medical facility (clinic) located at the mine site. Medical staff for each shift include a doctor, two paramedics and first aid personnel (emergency brigade members). The paramedics are at the clinic 24 hours, while the doctors sleep at the mine and are on-call in case of emergencies. The clinic is well-equipped for dealing with many types of medical emergencies, including cyanide exposure. The clinic has two ambulances in case victims need to be evacuated to local hospitals. Procedures are in place for treatment of cyanide exposure, for determining the need to evacuate a victim to a local hospital, and for evacuating victims using the ambulances.

Cyanide treatment is provided on-site by company medical staff at the clinic. It is expected that any victim will be treated for cyanide on-site, and once it has been stabilized, the doctor will

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decide if transfer to the Santa Fe Specialties Clinic in the city of Caborca is required to provide additional medical care. Two ambulances are maintained at the clinic to transfer victims if needed. Procedure PO-SM-03 "Treatment of worker intoxicated with cyanide" describes what is to be done in the event of a cyanide exposure, including determination of the need to evacuate a victim to Santa Fe Clinic (located approximately 1.5 hour drive from the mine site), and procedures to evacuate victims using the ambulances. The cyanide antidote will be transported along with the patient to the clinic. For life, critical scenarios that exceed the Santa Fe Clinic capabilities, victims would be transferred to the Hermosillo hospital.

Cyanide treatment is provided on-site by company medical staff in the medical clinic. La Herradura would manage any cyanide exposures without involving offsite facilities. It is expected that any victim will be treated for cyanide on-site, and once it has been stabilized, the doctor will decide if transfer to the Santa Fe Clinic on Caborca is required to provide additional medical care. Therefore, the offsite facilities do not necessarily treat victims directly for cyanide exposure. La Herradura has determined that its medical facilities have qualified staff, adequate equipment and expertise to respond effectively.

Regardless of this, La Herradura has established formalized arrangements with the Santa Fe clinic regarding the potential to treat patients that have been exposed to cyanide. The auditors reviewed a letter from the Santa Fe clinic dated June 1<sup>st</sup> 2018 indicating that they have qualified medical physicians, infrastructure and equipment to respond to cyanide exposures. The letter also stated that the hospital has medical and paramedic staff trained to provide care to patients with a diagnosis of cyanide poisoning and has adequate equipment to determine cyanide levels in blood.

La Herradura organized in 2018 a training session on hospital treatment of cyanide intoxication patients with participation of doctors, nurses and paramedics. This training is conducted every two years, however, in 2020 was suspended due to COVID-19 pandemic restrictions and rescheduled for 2021.

La Herradura conducts mock emergency drills according to an annual emergency drills program. The auditors reviewed evidence of emergency response drills during the re-certification period which included scenarios with cyanide intoxication and cyanide releases that required to test the full hazardous materials response protocol. Drills for other identified emergency events are also completed on a routine basis to maintain an adequate level of emergency response preparedness. The emergency drill reports identified improvement opportunities, lessons learned and corrective actions.

The drills reviewed included scenarios of cyanide solution releases and HCN gas exposure for 2018, 2019 and 2020, with the participation of employees and contractors. The execution of the annual drill program was impacted in 2020 by COVID-19 pandemic restrictions; as such only one drill related to cyanide was conducted in February 2020. Two cyanide related drills were conducted in 2018 and 2019, respectively. Drill reports including corrective actions were available for review by the auditors. Drills are developed to include a variety of locations and exposure responses, and are developed in advance and risk assessed to minimize potential impact of event unpreparedness. Lessons learned are incorporated into its emergency response planning after a mock drill, if required.

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

#### Standards of Practice

7.1 Prepare detailed emergency response plans for potential cyanide releases
The operation is: ■ in full compliance □ in substantial compliance □ not in compliance with Standard of Practice 7.1

Describe the basis for the Finding/Deficiencies Identified:

La Herradura has developed an emergency response plan to address accidental releases of cyanide, that is included in procedure PS-HE-07 "Emergency Response and Preparedness" (ERP) that identifies potential emergency situations including cyanide releases, and the activities and components that must be prepared before the emergency, such as emergency brigades, training, mock drills and communications during an emergency situation. The plan also addresses the actions to be taken, first responders, responsibilities, emergency telephone contact list with both emergency staff numbers and external support, and recovery after the emergency.

The ERP is complemented by approximately 20 procedures of emergency response, each of them addressing a specific emergency scenario. Cyanide scenarios considered include cyanide solution spills, solid cyanide spills, cyanide solution leaks from leach pads and process ponds, overflow of solution ponds, and treatment of worker intoxicated with cyanide. A complete list of scenarios is included in section 11 of the ERP. In addition, there is a Contingency Plan that provides detailed incident response procedures and requirements, including contact information, declaration of emergency, notifications, and other information for a number of emergency scenarios. These procedures and plans have been implemented through specific training to personnel working in areas where cyanide is present as well as through mock drills, and equipment checklists throughout the recertification period.

The ERP provides response procedures for all potential cyanide failure scenarios required by the ICMC mine protocol, including: catastrophic release of hydrogen cyanide, transportation accidents, releases during unloading and mixing, releases during fires and explosions, equipment failure (valve, pipe or tank ruptures), overtopping of the ponds, power outages, uncontrolled seepage, and failure of the heap leach facilities. Failure of cyanide treatment systems is not addressed because La Herradura does not have a cyanide destruct circuit.

Transportation of cyanide by truck from the Hermosillo warehouse to La Herradura is addressed in Segutal ERP. La Herradura does not assume responsibility for cyanide until it is transferred from the isotanker into the dilution tank. Segutal would have primary responsibility for a spill of solid cyanide during transportation from Hermosillo, but would draw on resources from La

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Herradura for support if the spill occurred close to the mine site. La Herradura has a copy of the Segutal ERP, which was also reviewed by the auditors. Segutal ERP includes actions to respond to cyanide spills and intoxication. Procedure PO-BE-07 "Spill of cyanide, cyanide solution, tailings, and overflow of solution ponds" also includes a section that details actions that the mine site would take in case of a cyanide spill during transportation.

The Emergency Response Plan, emergency response procedures and the Contingency Plan describe the specific actions to be taken in case of emergencies such as the use of cyanide antidotes and first aid measures, first responders, responsibilities, telephone contact lists, call for external help, and recovery after the emergency. In the event of an emergency involving cyanide, the ERP and supporting documentation provides for specific actions to be undertaken. Cyanide scenarios considered include cyanide solution spills, solid cyanide spills, cyanide solution leaks from leach pads and process ponds, overflow of solution ponds, and treatment of worker intoxicated with cyanide.

Any emergency that has the potential to affect the surrounding communities will trigger the notification requirements outlined in the ERP and in procedure PS-HE-09 "Internal and External Communication". Clearing site personnel and potentially affected communities from the area of exposure is considered in procedure PS-HE-07 "Emergency Response and Preparedness" where actions to be taken when an emergency arises are described. Initial response, first aid and the use of cyanide antidotes by trained medical personnel is included in procedure PO-SM-03 "Treatment of worker intoxicated with cyanide". The ERP also provides responses to cyanide spills or leaks from the Merrill Crowe plant and heap leach facilities, and makes provision for initial response, first aid, and spill reporting control and cleanup. The Emergency Response Team (Emergency Brigades) have received training to respond to cyanide emergency incidents. In addition, all employees are trained in emergency communication and evaluation procedures.

7.2 Involve site personnel and stakeholders in the planning process.

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 7.2

Describe the basis for the Finding/Deficiencies Identified:

La Herradura involves its workforce in the cyanide emergency response planning. During training of the Emergency Brigades (EB), and after emergency mock drills, staff and the workforce has opportunity to provide feedback. Workers can also provide feedback during the review of emergency response procedures in 5-minute safety talks (RIT). The auditors verified that La Herradura maintains sufficient medical resources, infrastructure and equipment that would not require to treat exposed patients to cyanide in off-site medical facilities. It is expected that any victim will be treated for cyanide on-site, and once it has been stabilized, the doctor will decide if transfer to the Santa Fe Clinic in Caborca is required to provide additional medical care.

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The ERP does not provide specific functions to outside responders and communities as La Herradura has the resources, equipment and first response capabilities to deal with cyanide related releases and exposures during transportation and within the mine facility. If required, La Herradura can request support from the nearby Noche Buena operation, which is also owned by Penmont, to respond to emergency scenarios.

La Herradura has made potentially affected communities aware of the nature of the risks associated with accidental cyanide releases even though these communities would not be affected by cyanide releases. La Herradura maintains regular engagement meetings with communities (ejidos) that are in the influence area of the operation such as Ejido Juan Alvarez (5 km away), Ejido Sahuaro (27 km away) and the city of Caborca (80 km away). Mine workers and contractors, many of them from Caborca, Juan Alvarez, and Sahuaro, have received cyanide related training as part of the general training provided by La Herradura.

Mine personnel and contractors participated in mock drills conducted in the last 3 years. The annual emergency drill program considered participation of outside responders in 2020, but the program was impacted by COVID-19 pandemic restrictions. Some of La Herradura brigade members are also members of the Caborca Fire Department. Mine workers and contractors, many of them from Caborca, Juan Alvarez and Sahuaro, have received cyanide-related training as part of the general training required by La Herradura. La Herradura also provides to the communities a flyer called "Cyanide uses" that includes information about the process, the use of cyanide and emergency response.

The ERP does not provide specific functions to outside responders and communities as La Herradura has the resources, equipment and first response capabilities to deal with cyanide related releases and exposures during transportation and within the mine facility. Regardless of that, La Herradura has established formalized arrangements with the Santa Fe clinic regarding the potential to treat patients that have been exposed to cyanide as it has qualified medical physicians, infrastructure and equipment to respond to cyanide exposures. The auditors verified that La Herradura maintains sufficient medical resources, infrastructure and equipment that would not require to treat exposed patients to cyanide in medical facilities off-site. It is expected that any victim will be treated for cyanide on-site, and once it has been stabilized, the doctor will decide if transfer to the Santa Fe Clinic is required to provide additional medical care.

The mock drills completed to date at the mine have not involved external stakeholders. However, the ERP includes current contact information for notifying regulatory agencies, offsite medical facilities, the media, and other stakeholders.

7.3	Designate	appropriate	personnel	and	commit	necessary	equipment	and	resources	for
eme	ergency resp	ponse.								

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 7.3

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Describe the basis for the Finding/Deficiencies Identified:

The Contingency Plan includes an operational structure to respond to emergencies and is led by the General Manager (GM), and the alternates can be the Safety and Ecology Manager for fires, rescue and hazardous materials scenarios; or the Occupational Health leader for medical attention and first aid scenarios. Emergency Brigade (EB) responsibilities are described in the Contingency Plan and in the brigade internal regulations document. La Herradura has a total of 35 brigade members conformed by personnel from different areas of the mine. Some of the brigade members are firemen from Caborca and Puerto Peñasco. The auditors reviewed the brigade list with information on its 35 team members and other responders (doctor, paramedics, security) including complete name, contact number, and working area.

Procedure PO-HE-09-R01 "Brigade training program" includes an annual training program for the EB. It is the responsibility of the Emergency Response Leader to ensure that training is provided and maintained. The training program includes weekly training for EB members. Procedure PS-HE-07 "Emergency Response and Preparedness" includes call-out procedures. Main way of communication is by radio, which is used and available 24-hours a day. Contact information of the EB is managed and maintained up to date in the brigade internal regulations document. The functions and responsibilities of the Emergency Response Leader and brigade responders are detailed in the brigade internal regulations document. There is an Integration Emergency Brigade Act dated 2018 that provides details on roles and responsibilities. This document complements general information on roles and responsibilities included in the Contingency Plan.

Emergency response equipment including PPE's is provided in procedures PO-HE-09-R01 "Brigade training program" and PO-HE-09-R02 "Review of equipment response for hazmat and fires". The list includes among others: clothing for fire intervention, equipment for rescue at heights, transportation and vehicle rescue, hazmat and support equipment. HCN gas monitors are also includes in the emergency response equipment. Emergency response equipment is checked on a monthly basis as indicated in procedure PO-HE-09-R02 "Review of equipment response for hazmat and fires". Records of completed inspection checklists were available for review by the auditors. The ERP does not provide specific functions to outside responders as La Herradura has the resources, equipment and first response capabilities to deal with cyanide related releases and exposures during transportation and within the mine facility.

7.4 Develop procedures for internal	and external	emergency	notification	and rei	portina
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The operation is: ■ in full compli	ance
☐ in substantia	al compliance

□ not in compliance with Standard of Practice 7.4

Describe the basis for the Finding/Deficiencies Identified:

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The ERP includes procedures to notify management, regulatory agencies, outside response providers and medical facilities in case of an emergency. Contact information for internal personnel, outside responders and medical facilities from Caborca and Puerto Peñasco are included in procedure PS-HE-07 "Emergency Response and Preparedness". The contact list includes the names of internal first responders, security, medical services, regulatory agencies, and the Emergency Brigade. Procedure PS-HE-09 "Internal and External Communication" provides details on how to notify external parties in case of emergencies.

The ERP includes procedures to notify management, regulatory agencies, outside response providers and medical facilities in case of an emergency. Procedure PS-HE-09 "Internal and External Communication" provides details on how to notify external parties in case of emergencies. The Community Relations department maintains contact information of the members of the local communities and the media in the management information system Borealis. In case of an emergency situation, La Herradura will communicate the event to the authorities and the communities through the Industrial Relations Superintendent, who is the authorized speaker for such events.

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

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 7.5

Describe the basis for the Finding/Deficiencies Identified:

The ERP and supporting documentation includes remediation measures for liquid and solid cyanide spills, including materials to be used for clean-up and for disposal of contaminated spill clean-up materials. Procedures PO-PL-03 "Clean-up of solid CN spills" and "PO-PL-17 "Response to cyanide solution spills" provide details on how to clean contaminated soil. In those cases, sodium hypochlorite, that is stored at the warehouse, will be used in a solution at 10% for neutralization purposes. The procedure also indicates how to prepare the sodium hypochlorite solution at 10%, the depth at which impacted soil must be excavated and how samples should be taken to determine that the area is clean. The procedure also indicates that WAD Cyanide concentrations in soil should be below 0.5 mg/l to consider that the release has been completely cleaned up. All cyanide-contaminated material is disposed of in the heap leach area. La Herradura confirmed the operation only uses bottled water for drinking water supply and stated that well water is brackish. By interview with environmental personnel, they confirmed there is no surface water at La Herradura and that groundwater table is located at a depth of approximately 100 meters. Therefore, any use of chemicals (including sodium hypochlorite, ferrous sulfate, or hydrogen peroxide) is at no risk of release into surface waters.

Procedure PO-PL-17 "Response to cyanide solution spills" provides information on environmental monitoring in case of cyanide leakages into groundwater, including sampling and

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analytical methodologies to be followed, and sampling locations. La Herradura has a groundwater monitoring program including groundwater wells located upgradient and downgradient of cyanide facilities. The Environmental Department would manage the characterization, extent and remediation of a spill, and is responsible for reporting spills to the regulatory agencies. La Herradura monitoring plan includes groundwater sampling and a regulatory reporting program that must be initiated if cyanide is detected in groundwater wells downstream of process ponds and leach pad facility.

7.6 Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 7.6

Describe the basis for the Finding/Deficiencies Identified:

La Herradura ERP procedure latest review was conducted in January 2021. According to document control procedures, the ERP and other documents should be reviewed and updated every two years to ensure that information is kept up-to-date and that the plan remains appropriate for the mine. The ERP and supporting documentation is reviewed to identify any required changes, and to test and review the adequacy of emergency procedures with drills and exercises. Also, the ERP is reviewed after significant changes, new projects, incorporation of new hazardous materials, new significant aspects or after a significant unwanted event occurs. For example, the brigade internal regulations document is updated when there is a change in the members of the brigade team.

La Herradura conducts mock emergency drills according to an annual emergency drills program. The auditors reviewed evidence of emergency response drills during the re-certification period which included scenarios with cyanide intoxication and cyanide releases that required to test the full hazardous materials response protocol. Drills for other identified emergency events are also completed on a routine basis to maintain an adequate level of emergency response preparedness. The emergency drill reports identified improvement opportunities, lessons learned and corrective actions. The drills reviewed included scenarios of cyanide solution releases and HCN gas exposure for 2018, 2019 and 2020, with the participation of employees and contractors. The execution of the annual drill program was impacted in 2020 by COVID-19 pandemic restrictions; as such only one drill related to cyanide was conducted in February 2020. Two cyanide related drills were conducted in 2018 and 2019, respectively. Drill reports including corrective actions were available for review by the auditors. Drills are developed to include a variety of locations and exposure responses, and are developed in advance and risk assessed to minimize potential impact of event unpreparedness. Lessons learned are incorporated into its emergency response planning after a mock drill, if required.

There have been no cyanide-related emergencies during the recertification audit period requiring the implementation of the emergency response procedures. Periodic reviews of the ERP and supporting documentation are completed at least every two years. The auditors reviewed

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updates of the major components of the plans and procedures, such as the emergency equipment list and its location, the names of the brigade members, and the emergency contact list. The ERP would be reviewed as part of the corrective action completed following any cyanide-related emergency.

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

#### Standards of Practice

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

8.1 Train workers to understand the hazards associated with cyanide use.

Describe the basis for the Finding/Deficiencies Identified:

All new hires, contractors and visitors at La Herradura receive an initial general induction training on health, safety and environmental matters before they can start working or enter the mine. This induction includes a module called "Sodium Cyanide" and provides information about the production process and the use of cyanide, its characteristics, health effects, risks, controls, storage and handling, PPE, signage, areas of risk, fires, spills, HCN monitors, symptoms, first aid, and emergency response. The auditors received this training prior to entering the mine and confirmed that the topics covered are comprehensive.

There is a training program for each area of the mine that is managed by the training department and includes cyanide related topics. These programs have a duration of 2 years since 2020 and employees have to take the courses within this timeframe. The auditors reviewed 2018 and 2019 annual programs, and the 2020-2021 biannual training program for the Merrill Crowe area to verify implementation. The training program was impacted by COVID-19 restrictions in 2020, but La Herradura regained control of the program. Training materials are available for induction training for all employees. Refresher training is provided annually on cyanide hazards. Interviews with employees and contractors working at the Merrill Crowe plant and cyanide mixing area, and personnel from Health & Safety, the medical clinic and emergency response were conducted, showing knowledge on cyanide management. 5-minute safety talks (RIT meetings) are also provided to workers that would include cyanide management and health effects of cyanide; these are provided by supervisors. Sign in sheets are used to record attendance. The RIT meetings are the primary means used to provide refresher training in recognition of cyanide hazards.

Annual refresher training including cyanide is provided in La Herradura. Training includes chemical and physical properties of cyanide; hazards of cyanide; symptoms of cyanide exposure; emergency response; and first aid, including use of oxygen. The training includes a written test. Process workers receive refresher training on cyanide management during review of operational procedures. Also, 5-minute safety talks are provided to workers that would include cyanide

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management and health effects of cyanide. The 5-minute safety talks are the primary means used to provide refresher training in recognition of cyanide hazards. The auditors reviewed refresher training records which were offered at different times to cover all shifts, covering the recertification audit period.

Training records, including refreshers and cyanide hazard training for La Herradura personnel, are retained by the training coordinator in the form of hard copies and also an electronic version stored in Microsoft Excel spreadsheet format. Training records were reviewed for the audit recertification period and were found to be complete. Training records identify the trainer, trainee, topics covered, date and sign off sheet. Due to COVID-19 pandemic restrictions, during 2020 most of the training has been conducted on virtual mode.

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 ☐ in substantial compliance □ not in compliance with Standard of Practice 8.2

Describe the basis for the Finding/Deficiencies Identified:

New employees and any contractor worker that will perform cyanide related tasks in La Herradura receives orientation training, which includes elements specific to the handling and use of cyanide in the operation. Employee specific training includes a detailed annual program that covers operational procedures in the cyanide mixing area, Merrill Crowe plant, and leach pad. Aspects such as cyanide awareness, response, process information, hydrogen cyanide monitor and alarm operation, and location of cyanide safety equipment are included. This training program covers key operating procedures: cyanide mixing, operation of Merrill Crowe plant, HCN monitoring systems, pH adjustment, leach pad irrigation cells placement and operation, among others.

Experienced supervisors provide training on cyanide hazards, work procedures and PPE in classroom sessions and in the field using the operating procedure documents. Supervisors are trained to provide this training to workers. Refresher training on procedures is tracked and records are signed by both the supervisor and the trainee. Refreshers training is provided according to the training program or more often is there is a change in the procedure. Workers are also instructed on the use of risk assessments and area inspections, which are carried out within work areas.

La Herradura has developed a comprehensive list of procedures for the process plant and leach pad operations that define the steps required to complete a task that involves cyanide handling in a safe manner. The annual/biannual procedures training program is prioritized based on tasks and risks with sign off required from both the trainer (process trainer or supervisor) and the trainee. Training elements required for a task or area is recorded on a training sheet. The auditors verified that procedures used at the process plant and leach pad operations that involve the use

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and handling of cyanide are included in the training program. Training elements such as required personal protective equipment (PPE) and decontamination requirements are included in the training materials used to train operators and maintenance personnel. Training materials were available for review.

On-the-job training by a senior operator or supervisor is also conducted prior to allowing a new employee to work alone. The trainee receives training for 90 days prior to being approved to work at the process plant. After that, the trainee works under direct supervision of the supervisor, and once the trainee has acquired experience, is allowed to work on its own. This process can take several months. Task observations are used by the supervisor to verify that the worker is following the established procedures. The auditors reviewed records of this evaluation to new operators and tests to verify understanding of the topics covered in the training.

Training on specific tasks is provided by the process/maintenance trainer or by supervisors or lead operators that have successfully passed a "train-the-trainers" course. In some cases, supervisors are also considered qualified to provide training based on their experience managing cyanide facilities.

Chemours provided training in cyanide management to process, maintenance and emergency brigade personnel in 2018, 2019 and two times in 2020. This training included topics such as cyanide risks; health effects; cyanide controls; and emergency response; among others. Reviewed training records confirmed that trainers had received training from Chemours on cyanide handling. Personnel from the medical center including doctors, nurses and paramedics also received external training from Chemours on response to cyanide intoxication in 2018. Records of internal training to medical personnel on cyanide matters were not available for the recertification period. During preparation of this report, La Herradura sent evidence of internal training to medical staff on cyanide treatment, including the name of the trainer, trainees, topics covered, date and sign off sheet.

All new employees and contractors that will work or might encounter cyanide during their tasks, are trained on cyanide before being allowed to operate onsite. Training includes cyanide awareness training and, for those that will be working within the process plant and leach pad, review and understanding of operating procedures related to their tasks is mandatory. Some of the aspects covered include cyanide alarms and monitors, first aid and use of cyanide safety equipment. Individual training is provided for each specific cyanide related task that an operator will perform and includes cyanide work procedures. A senior/junior on-the-job training approach is used to further training for the personnel on job activities and cyanide safety. New trainees are assigned to work under the supervision of a competent operator/supervisor. These trainees are required to work under direction of these competent operators/supervisors until they demonstrate ability to work without direct supervision in a safe and responsible manner.

Annual refresher training including cyanide is provided in La Herradura. Module "Sodium Cyanide" presentation provides information about the production process and the use of cyanide, its characteristics, health effects, risks, controls, storage and handling, PPE, signage, areas of risk, fires, spills, HCN monitors, symptoms, first aid, and emergency response. The training

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includes a written test. In 2020, this training was provided in virtual mode. Additional training is also provided by external personnel (e.g. Chemours).

Besides the annual cyanide refresher training, La Herradura also provides re-training to process and maintenance personnel on operating procedures, which includes cyanide hazards and controls, and is performed in an annual training program. Experienced supervisors provide retraining on cyanide hazards, work procedures and PPE in classroom sessions and in the field using the operating procedure documents. Supervisors are trained to provide this training to workers. Refresher training on procedures is tracked and records are signed by both the supervisor and the trainee.

Task observations by supervisors are used to evaluate competency of workers and effectiveness of training. Evaluation of the cyanide training received is by observation of tasks performed by workers to ensure they are following appropriate work procedures and using suitable PPE when working with cyanide. The auditors reviewed the checklist used to conduct these task observations, and interviewed supervisors of the Merrill Crowe Plant and heap leach operations. In addition, written tests are also used to evaluate effectiveness of training.

Training records documenting the training that was received are retained throughout an individual's employment. Training records include the name of the trainer, trainee, date, subject covered and is signed by both the trainer and trainee. Written and verbal tests are completed to demonstrate the employees' understanding of the training materials.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 8.3

Describe the basis for the Finding/Deficiencies Identified:

All process operators and maintenance personnel that conduct cyanide related tasks including cyanide mixing and production, are provided with site-specific hazard training including cyanide awareness, HCN monitoring, emergency response, recognition of cyanide exposure symptoms, cyanide exposure first aid, and actions to be taken in the event of a cyanide spill. The Emergency Brigade team members also receives training to respond to cyanide emergencies. Response procedures are covered during hazard and awareness training and during cyanide refresher training ("Sodium Cyanide" training module). Operators and maintenance personnel in different areas and shifts were interviewed and demonstrated good awareness of what actions are to be taken in the event of a cyanide release.

Personnel who work in areas where cyanide is present receive training in decontamination and first aid procedures. Cyanide awareness training to operators includes actions to take in the event of a cyanide spill. New-hire, refresher training and operational procedures training program

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cover the possible cases of cyanide exposure and includes decontamination practices and first aid response. Operators receive training on response to cyanide spills during their initial induction, during regular 5-minute safety talks and as part of their refresher training.

Emergency response drills are held with plant and maintenance personnel to ensure that they can respond to an emergency and that their skills remain current. Emergency brigade personnel take part in routine drills to test and improve their response skills. The Emergency Brigade has conducted cyanide related drills including scenarios of cyanide solution releases and HCN gas exposure for 2018, 2019 and 2020, with the participation of employees and contractors. The execution of the annual drill program was impacted in 2020 by COVID-19 pandemic restrictions; as such, only one drill related to cyanide was conducted in February 2020. Two cyanide related drills were conducted in 2018 and 2019, respectively.

La Herradura has an Emergency Brigade (EB) on site. The EB has a total of 35 brigade members conformed by personnel from different areas of the mine. EB members are trained through participation in mock drill exercises as well as formal training programs. The auditors interviewed members of the emergency response team and found them to have received training on cyanide hazards and to be knowledgeable on how to manage cyanide releases, including use of response equipment. Mock scenarios and drills are regularly undertaken to test the effectiveness of the EB. The review of drill reports in the last three years showed that the EB actively participated in emergency drills including scenarios involving cyanide emergencies.

Chemours also provided a training session to the EB in 2018, 2019 and two times in 2020 and included topics such as cyanide risks, health effects, cyanide controls, and emergency response, among others. In 2018, the EB received additional external training on emergency response in a training session provided by an external consultant. In this training session, organized by La Herradura, participated outside responders and institutions form Caborca and Puerto Peñasco including firefighters, hospitals, the Mexican Red Cross, and the Mexican Institute of Social Security (IMSS).

No outside emergency responders would be included in an emergency response to a cyanide release. The ERP does not provide specific functions to outside responders as La Herradura has the resources, equipment and first response capabilities to deal with cyanide related releases and exposures during transportation and within the mine facility. In case of cyanide exposures, it is expected that any victim will be treated for cyanide on-site, and once it has been stabilized, the doctor will decide if transfer to the Santa Fe clinic is required to provide additional medical care.

In 2018, La Herradura organized a training session on emergency response with the participation of outside responders and institutions form Caborca and Puerto Peñasco including firefighters, hospitals, the Mexican Red Cross, and the Mexican Institute of Social Security (IMSS). La Herradura also organized in 2018 a training session on hospital treatment of cyanide intoxication with participation of doctors, nurses and paramedics. This training is conducted every two years, however, in 2020 was suspended due to COVID-19 pandemic restrictions and rescheduled for 2021. The auditors verified that La Herradura maintains sufficient medical resources,

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infrastructure and equipment that would not require to treat exposed patients to cyanide in medical facilities off-site.

Annual refresher training including cyanide is provided in La Herradura. Module "Sodium Cyanide" presentation provides information about the production process and the use of cyanide, its characteristics, health effects, risks, controls, storage and handling, PPE, signage, areas of risk, fires, spills, HCN monitors, symptoms, first aid, and emergency response. The training includes a written test. In 2020, this training was provided in virtual mode. Additional training is also provided by external personnel (e.g. Chemours). Besides the annual cyanide refresher training, La Herradura also provides re-training on operating procedures, which includes cyanide hazards and controls, and is performed in an annual training program. Refresher training on procedures is tracked and records are signed by both the supervisor and the trainee.

La Herradura conducts mock emergency drills according to an annual emergency drills program. The auditors reviewed evidence of emergency response drills during the re-certification period which included scenarios with cyanide intoxication and cyanide releases that required to test the full hazardous materials response protocol. Drills for other identified emergency events are also completed on a routine basis to maintain an adequate level of emergency response preparedness. The emergency drill reports identified improvement opportunities, lessons learned and corrective actions.

The drills reviewed included scenarios of cyanide solution releases and HCN gas exposure for 2018, 2019 and 2020, with the participation of employees and contractors. The execution of the annual drill program was impacted in 2020 by COVID-19 pandemic restrictions; as such, only one drill related to cyanide was conducted in February 2020. Two cyanide related drills were conducted in 2018 and 2019, respectively. Drill reports including corrective actions were available for review by the auditors. Drills are developed to include a variety of locations and exposure responses, and are developed in advance and risk assessed to minimize potential impact of event unpreparedness. Lessons learned are incorporated into its emergency response planning after a mock drill, if required.

The emergency drills are reviewed afterwards to identify lessons learned, including any additional training that may be required, either for operators or for members of the emergency response team. Training procedures would be revised if any deficiencies are identified. The Emergency Response Brigade Leader was interviewed as part of evidence for this requirement and confirmed that after running a mock drill, a debriefing session is held providing feedback on performance. Any required changes to the management systems or procedures are implemented. Further training needs based on these changes are also documented and implemented. The emergency drill reports identified improvement opportunities, lessons learned and corrective actions.

Training records, including refreshers and cyanide hazard training for La Herradura personnel are retained by the training coordinator in the form of hard copies and also an electronic version stored in Microsoft Excel spreadsheet format. Training records were reviewed for the audit recertification period and were found to be complete. Training records identify the trainer, trainee, topics covered, date and sign off sheet.

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Signature of Lead Auditor



#### 9. DIALOGUE: Engage in public consultation and disclosure.

#### Standards of Practice

9.1 Provide stakeholders the opportunity to communicate issues of concern.
The operation is: ■ in full compliance
□ in substantial compliance
□ not in compliance with Standard of Practice 9.1

Describe the basis for the Finding/Deficiencies Identified:

La Herradura continued implementing an "open doors" policy in terms of community engagement and continue using established mechanisms to provide opportunities to stakeholders to communicate their concerns related to cyanide management, including engagement programs, meetings, and tours to the mine site.

For the recertification period, La Herradura continued with the program for stakeholders to visit the mine, including schools, universities, authorities, medical institutions, journalists, among others. The mine tours include a presentation and explanation of the production process, the use of cyanide and the controls in place to avoid groundwater contamination, which is one of the main points of concern of the surrounding communities in relation to cyanide. This program was suspended between March and November 2020 due to COVID-19 pandemic restrictions. The mine usually conducts 5 to 6 mine tours per month.

La Herradura has developed a flyer called "Cyanide uses" that includes information about the process, the use of cyanide and emergency response. These flyers are distributed in meetings with communities and stakeholders, and during the mine tours. Videos of the production process and the use of cyanide are also presented to visitors in the mine tours.

In July 2020, La Herradura distributed press releases to the local and regional media about its compliance with the Cyanide Code. La Herradura also has a grievance mechanism in place to receive, process, manage and resolve complaints and grievances in a timely and consistent manner. Complaints and grievances are registered and managed in the management information system Borealis. There is an office in Caborca where stakeholders can file a complaint or request information about La Herradura. There have been no cyanide related complaints in the last 3 years. Every two years, La Herradura conducts perception studies in the local communities to evaluate its social management programs and includes questions about contamination and management of hazardous materials.

The Community Relations department maintains a community engagement plan, including meetings with communities and families, which represents an opportunity to raise questions about any subject, including cyanide management. La Herradura, in conjunction with its contractors, implements awareness campaigns in communities on environmental matters, such

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as Environmental world day, Water world day, awareness environmental campaigns in schools, among others, In these campaigns, La Herradura provides information about the production process including cyanide use. In 2020, La Herradura organized a webinar about environmental matters and the COVID 19 pandemic.

In addition, the Fresnillo PLC corporate website at http://www.fresnilloplc.com/corporateresponsibility/environment/cyanide-management-code/, provides information in English and Spanish on cyanide and the Code, as well as contact links for sustainability personnel through whom concerns or inquiries related to La Herradura use of cyanide can be addressed.

9.2 Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

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

Describe the basis for the Finding/Deficiencies Identified:

La Herradura utilizes the same mechanisms described in 9.1 as opportunities to interact with stakeholders and provide them with information regarding cyanide management practices and procedures. These mechanisms include hosting mine tours, environmental awareness campaigns, and public meetings with local communities, among others. A flyer describing cyanide use at the La Herradura mine has been prepared for distribution to local communities and stakeholders during mine tours. Minutes of these meetings, power point presentations, awareness campaigns, and the cyanide flyer were reviewed by the auditors.

9.3 Make appropriate operational and environmental information regarding cyanide available to stakeholders.

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

Describe the basis for the Finding/Deficiencies Identified:

La Herradura has developed written and visual descriptions of how their activities are conducted and how cyanide is managed, and has made these available to communities and other stakeholders. These include

- A flyer called "Cyanide uses" that includes information about the process, the use of cyanide and emergency response. These flyers are distributed in meetings with communities and stakeholders and during the mine tours.
- Power Point presentations that are provided in the mine tours that include an explanation of the production process, the use of cyanide and the controls in place to avoid

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groundwater contamination, which is one of the main points of concern of the surrounding communities in relation to cyanide.

- Videos of the production process and the use of cyanide that are also presented to visitors during the mine tours.
- The Fresnillo PLC website, that includes information about the Cyanide Code.
- Presentations about cyanide (e.g. general induction, others) to the workers and contractors that live in Caborca and close communities.

The information mentioned above is made available and distributed in different engagement opportunities with communities and stakeholders in general. Stakeholders may pose questions or raise concerns to La Herradura directly during the mine tours, during meetings, and via contact information provided on the website, among others. In 2018, La Herradura organized a training session on emergency response with the participation of outside responders and institutions form Caborca and Puerto Peñasco including firefighters, hospitals, the Mexican Red Cross, and the Mexican Institute of Social Security (IMSS). The auditors reviewed records of this training session.

Information is disseminated in a variety of forms, including verbal in community meetings, face to face meetings, mine tours, videos, and radio spots, among others. The people from the communities located around the mine speak and write in Spanish. La Herradura provides information on cyanide in written format (i.e. cyanide flyer) and verbal form (i.e. presentations provided to communities during meetings). The information provided uses diagrams, drawings and photos, and explains aspects in simple language. Records and materials of these meetings were reviewed.

Information on cyanide-release scenarios would be made available publicly by means of local community meetings and by reporting to regulatory agencies in Mexico. Information on cyanide releases would also be included in the annual corporate responsibility report, separately identifying any incidents occurring in La Herradura so that stakeholders would be aware of the nature and location of the release. La Herradura has provisions in place to make information publicly available regarding potential cyanide releases or exposure incidents, if any such incidents were to occur.

No cyanide exposures or incidents resulting in hospitalization or fatality have occurred prior to or since the mine was first certified. In case it occurs, it will be communicated to the Mexican Institute of Social Security (IMSS) and the Work and Social Prevention Secretary (STPS). These federal agencies would make the information available to the public. No cyanide releases off the mine site requiring response or remediation have occurred in the last 3 years. In case it occurs, the Environmental department will communicate it within 3 days of occurrence to PROFEPA, the Environmental agency. No cyanide releases on or off the mine site resulting in significant adverse effects to the environment have occurred in the last 3 years. In case it occurs, the Environmental department will communicate it to PROFEPA. Information regarding cyanide exposures and/or releases would be made available to authorities. No cyanide releases on or off the mine site requiring reporting under applicable regulations. In case of occurrence, the emergency procedure requires the site to communicate the incident to the PROFEPA following the established protocols, timeframes and reporting forms. No cyanide releases that are or that

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cause applicable limits for cyanide to be exceeded in the last 3 years. In case it occurs, the Environmental department will communicate it to PROFEPA.

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Feb 4, 2021

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