

# **ICMI Cyanide Code Gold Mining Recertification Audit**

## **Summary Audit Report**

**Minera Penmont S. de R.L. de C.V –  
La Herradura Mine Dynamic Leaching Plant**

**Sonora, Mexico**

**Submitted to:  
The International Cyanide Management Institute  
1400 I Street, NW – Suite 550  
Washington, DC 20005  
USA**

***2022 Audit Cycle***



15929 Avenida Venusto, Apt. 225,  
San Diego,  
CA, 92128, USA

[www.smartaccess.us](http://www.smartaccess.us)

LA HERRADURA MINE DYNAMIC LEACHING PLANT  
ICMC SUMMARY AUDIT REPORT

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**Mining Operation:** Dynamic Leaching Plant La Herradura Mine

**Mine Owner:** Fresnillo Plc

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

**Name of Responsible Manager:** Martin Rochin, General Manager

**Address and Contact Information:**

Minera Penmont S de R.L. de C.V.  
Callejon Sin Nombre 209 Oeste Entre Ave. N y P  
Col. Centro, C.P. 83600  
Heroica Caborca, Sonora, Mexico  
Email: [mrochin@fresnilloplc.com.mx](mailto:mrochin@fresnilloplc.com.mx)  
Tel. + 52 637 373-2204

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**Location and description of the operation**

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



La Herradura is operated by Minera Penmont which is fully owned by Fresnillo Plc (Fresnillo). La Herradura is 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 to 1987. La Herradura is an open pit and underground gold mine with two separate processing operations:

- Heap leach pad (HLF) with a Merrill Crowe Plant (MCP-HLF), pregnant pond, contingency ponds, and associated piping. These facilities began construction in 1997 and operation in 1998.

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- Dynamic Leaching Plants (DLP) with a separate Merrill Crowe Plant (MCP-DLP) and a Tailings Storage Facility (TSF). These facilities began construction in 2014 and one train of the DLP began operation in 2015 while the second train began operation in 2018.

There is no physical connection between the HLF operation and the DLP operation. Therefore, Penmont decided to certify the DLP operation separately from the HLF operation. The HLF operation has been certified since 2008, and this is the second certification for the DLP operation.

La Herradura receives solid cyanide via isotankers from Draslovka. The isotankers are offloaded in a cyanide preparation area consisting of a dilution tank, a storage tank, and a dosification tank before the cyanide is distributed to the DLP. Offloading is completed by solid-liquid sparging with closed connections between the isotanker and the dilution tank.

The DLP consists of two trains of crushing, grinding, leaching serviced by the MCP-DLP and the TSF. In each train, ore is delivered to a crusher for crushing followed by grinding in a semi-autogenous grinding (SAG) mill and further grinding in a ball mill. The ore in both trains is sent to a thickener, the agitation circuit and the countercurrent washing (LCC, by its acronym in Spanish) circuit. Reagents, including cyanide, and oxygen are added in the agitation circuit. After the LCC circuit, underflow (tailings) is pumped to the geomembrane-lined TSF and the pregnant solution reports to the MCP-DLP. The MCP-DLP was constructed with two process ponds, but they have been disconnected and flow goes directly from the LCC circuit to the MCP-DLP without intermediate storage. Reclaim water from the TSF is returned to the agitation circuit.

In the MCP-DLP, the pregnant solution first passes through a sedimentation tank (Hooper) followed by further removal of solids in clarifiers. After clarification, the pregnant solution is subject to a vacuum in the deoxygenation circuit to eliminate dissolved oxygen. Reagents are added to precipitate gold and silver which are filtered out in filter presses. The resulting sludge is sent to the onsite refinery for smelting in the induction ovens to produce doré. The barren solution is returned to the agitation circuit.

The scope of the recertification audit includes the following cyanide facilities: The Dynamic Leaching Plant (DLP) including two trains of Semi-Autogenous Grinding (SAG) mills, ball mills, thickeners, leaching tanks, and countercurrent washing circuit, where cyanide is added in the agitation circuit; a Merrill Crowe Plant (MC-DLP); a Tailings Storage Facility (TSF); pipelines for transport of tailings to the TSF and return of decant water back to the DLP; and a cyanide preparation area consisting of a dilution tank, a storage tank, and a dosification tank.

The intensive leaching circuits (ILR) for both DLP 1 and 2 trains are outside the scope of the audit as they were not in use for the recertification period. There are no cyanide treated water discharges at La Herradura.

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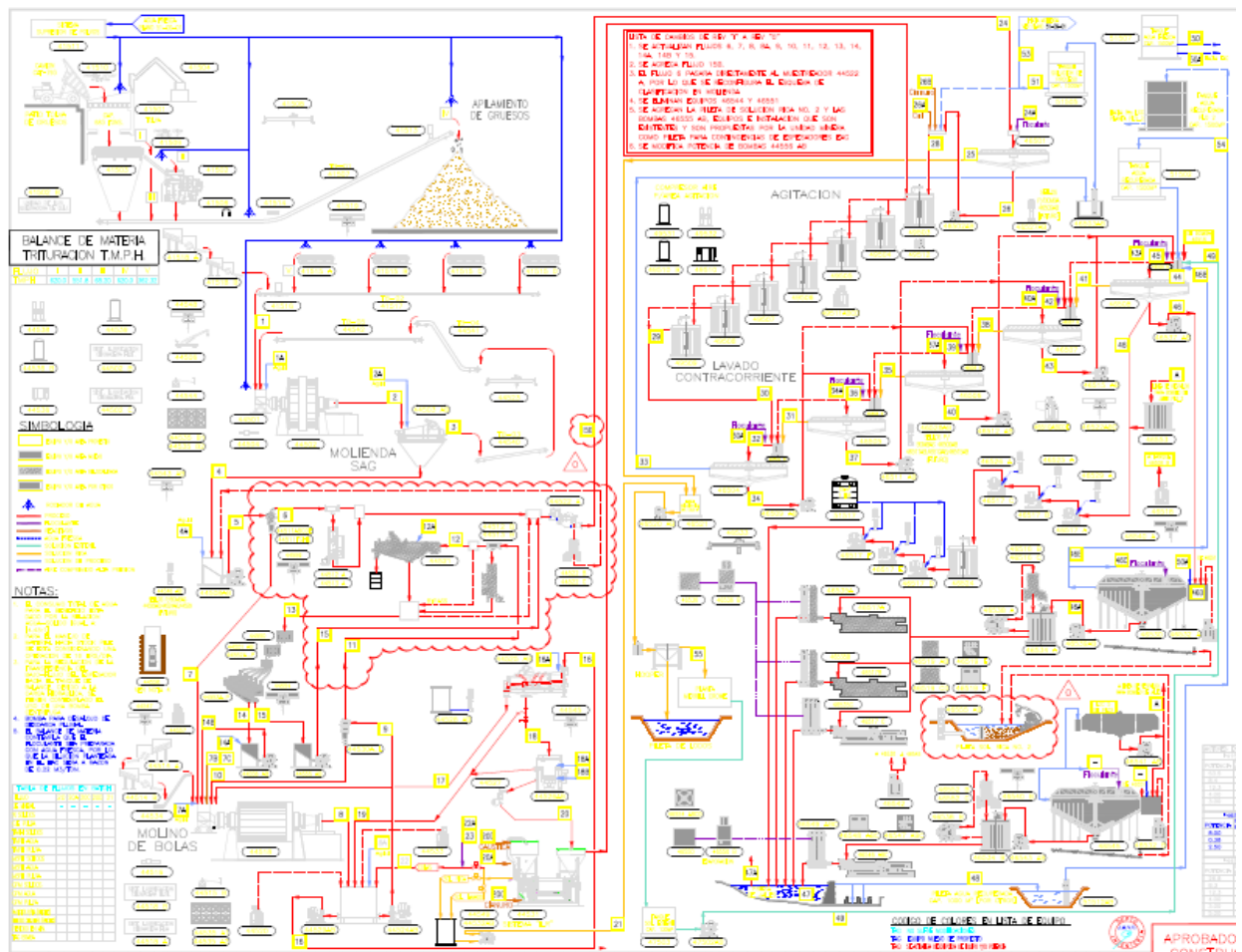
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New facilities constructed since the 2019 recertification audit include raising of the TSF dam Phase III up to level 170; and a contingency pond for the DLP 2.

Sodium cyanide is transported to La Herradura DLP in solid briquettes in an 18-ton isotainer truck. The isotainer is connected to the cyanide mixing tanks, freshwater is added, and recirculated between the isotainer and the tank until the solid cyanide is completely dissolved.

The DLP ore processing flowsheets are presented below:

DLP-1



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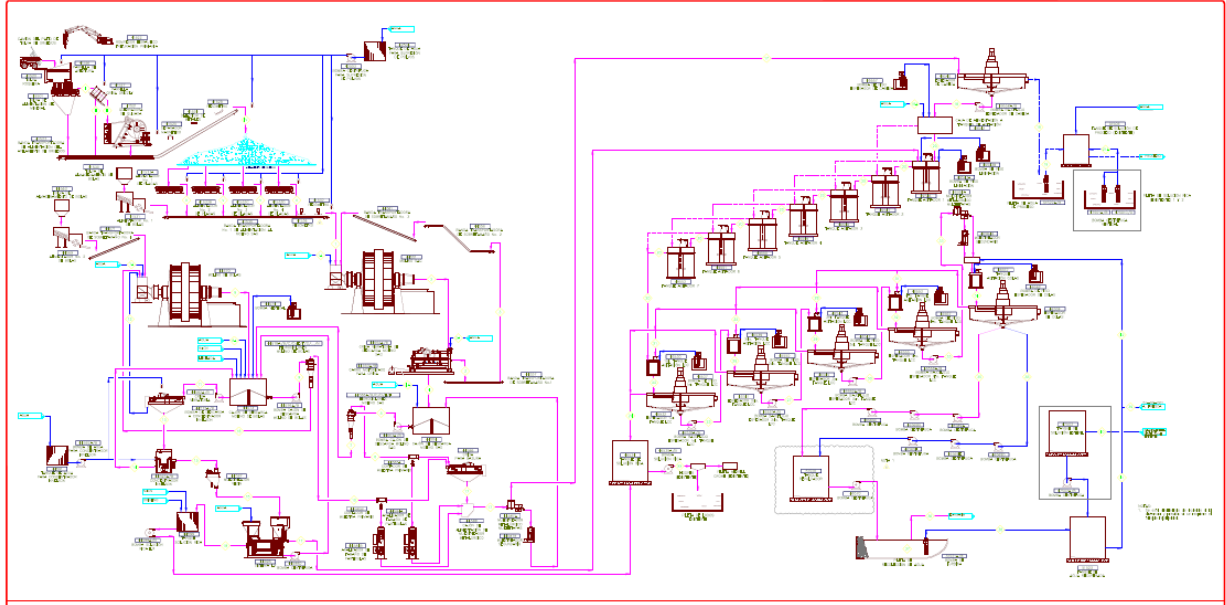
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DLP-2



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## Auditor's Finding

The International Cyanide Management Institute (ICMI) approved Audit Team verified that La Herradura Mine Dynamic Leaching Plant operation is in **FULL COMPLIANCE** with ICMI Cyanide Code requirements for Gold Mining operations.

**This operation has not experienced any compliance issues during the previous three year audit cycle.**

**La Herradura Mine Dynamic Leaching plant 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<br>E-mail: <a href="mailto:titocampos@smartaccess.us">titocampos@smartaccess.us</a> |
| Mining Technical Auditor: | Bruno Pizzorni     |
| Date(s) of Audit:         | May 3 <sup>rd</sup> – 6 <sup>th</sup> , 2022   |

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.

La Herradura Mine Dynamic  
Leaching Plant  
Name of Operations

  
Signature of Lead Auditor

February 18<sup>th</sup>, 2022  
Date

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May 6<sup>th</sup>, 2022



## SUMMARY AUDIT REPORT

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

### **Standard of Practice**

1.1 Purchase cyanide from certified 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 to Covoro Mining Solution Mexicana, S de R.L. de C.V. that is a subsidiary of the cyanide producer Draslovka Mining Solutions (former The Chemours Company). During this recertification period the mine only used sodium cyanide from this producer. The purchases are made under an agreement between Draslovka and Minera Penmont S. de R.L. de C.V., the operator of La Herradura.

The contract for the supply and transportation of cyanide is current and valid until December 31, 2023. In occasion of the site audit, the auditors checked in the International Cyanide Management Institute (ICMI) website that Draslovka Mining Solutions (Draslovka) Memphis Plant certification in the International Cyanide Management Code (Cyanide Code) was current until January 20, 2023.

The auditors reviewed the purchasing contract with Draslovka, the purchase orders and shipping records covering the re-certification audit period, finding all in conformance.

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

### **Standards of Practice**

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

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

*Discuss the basis for the Finding/Deficiencies Identified:*

The operation maintains the chain of custody records identifying all transporters and supply chains responsible transporting cyanide from the producer to the operation. The contract, purchase orders and shipping records for this recertification period were reviewed. Draslovka is the only supplier to the mine which is produced at the Draslovka's Memphis plant and is then transported by rail and truck to Draslovka Hermosillo Bag to Bulk Transloading Facility, and then to La Herradura. Chain of custody records were reviewed identifying each transporter and supply chain component that participate in transporting cyanide on the route from the producer to the operation, confirming that each of these parties is certified or is part of a certified supply chain.

Cyanide is transported by rail from the Memphis manufacturing plant to the United States/Mexico border. The Canadian National Railway takes custody of the rail boxcars from the manufacturing plant to the railhead in Memphis and from there they are transferred to the Union Pacific Railroad, and then to the United States/Mexican Border in Nogales, Arizona. This transportation supply chain segment - Draslovka US/Canada Rail & Barge Supply Chain - is Code certified. Its most recent recertification was obtained on April 7, 2022.

The cyanide in boxcars is then transported by Ferrocarril Mexicano Railroad (Ferromex) from the U.S./Mexican border at Nogales to Draslovka Hermosillo Bag to Bulk Transloading Facility, Sonora, Mexico. Boxcars transport flobins and packaged product to this warehouse, operated by Intermodal Mexico SA de CV. This transportation supply chain segment - Draslovka Mexico Supply Chain - is Code certified. Its most recent recertification was obtained on February 18, 2022.

Upon delivery of the boxcars to the Draslovka Hermosillo Bag to Bulk Transloading Facility, the isotankers are loaded and shipped to La Herradura. The Hermosillo Transloading Facility is Code certified. Its most recent recertification was obtained on December 8, 2021. Cyanide is transported by highway from the Hermosillo warehouse to La Herradura by Transportes Especializados Segutal, S.A. de C.V. (Segutal). Segutal is a dedicated transporter for Draslovka. Segutal delivers solid cyanide briquettes to La Herradura in isotankers. Segutal was audited and Code certified as part of the Draslovka Mexico Supply Chain.

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### 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, quality control/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

#### *Discuss the basis for this Finding/Deficiencies Identified:*

All unloading, mixing and storage facilities for reagent-strength cyanide at La Herradura Dynamic Leaching Plant, have been professionally designed and constructed. The evidence to demonstrate this requirement includes design specifications and as-built drawings stamped by certified professional engineers, as described in the previous ICMI audits reports, and found in compliance with the Code requirements. The design and construction drawings were reviewed and provided adequate detail to demonstrate that the unloading, storage and mixing facility was designed and constructed in accordance with sound and accepted engineering practices for these types of facilities.

In occasion of this recertification audit, the auditor confirmed la Herradura maintains all construction records at the mine site, organized and filed for quick access and consultation. There have been no modifications to this facility since the previous certification audit. The auditor observed the reagents area to be in good condition.

La Herradura has located the reagents area if the Dynamic Leaching Plant for cyanide unloading, mixing and storage, away from people and surface waters. There are no offices or areas where workers congregate near this area. The closest community is the village of Juan Alvarez some 5 km to the northeast. Surface water does not exist at and around the mine because of the extreme aridity of the Sonoran Desert. All surface water is ephemeral. There are no perennial surface water sources, such as springs, streams, rivers or lakes nearby.

La Herradura does not receive liquid cyanide. However, the entire cyanide offload areas at the three plants are constructed of reinforced concrete slab-on-grade (i.e., pad, curbs, parapets, footings and tank foundations), which provides a competent barrier to seepage. The concrete areas were in good condition at the time of this onsite verification audit.

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La Herradura has designed and constructed the isotanker offloading ramp at the Dynamic Leaching Plant to contain, recover and allow remediation of leakage. The isotanker is parked on a concrete ramp with a grated-concrete channel and a concrete hump at one end to contain leakage. The grated-concrete channel is connected to a sump with a pump to recover leakage. The isotankers are offloaded in a cyanide preparation area consisting of a dilution tank, a storage tank, and a dosification tank before the cyanide is distributed to the Dynamic Leaching Plant. Both the cyanide storage and dosification tanks are equipped with automatic level control to prevent tanks overflowing. These systems are tested and maintained by the operation on a routine basis. The auditors observed these components to be in good condition.

There have been no modifications to the cyanide mixing and storage tanks at this Plant since the last certification audit.

The cyanide mixing tank, the storage tank and the distribution tank are located on a solid pedestal of reinforced concrete, which is part of the concrete floor of the entire offloading area. These tanks are built on a metal grate over the solid concrete floor of the secondary containment. The auditor observed that all of these concrete foundations and containments were in good condition.

Secondary containments for cyanide mixing, storage and distribution tanks at the Dynamic Leaching Plant are constructed with concrete to provide a competent barrier to leakage. Containments were free of cracks or any breeches that could compromise their ability to effectively contain releases. The containment area has a sump pump to pump any solution back to the holding tank. The auditors observed that the concrete in all secondary containment areas was in good condition.

La Herradura Dynamic Leaching Plant (DLP) receives cyanide in ISO tanks. The offload area and tanks are located outdoors preventing the build-up of HCN gas. The mine does not store solid sodium cyanide. The cyanide offloading area is located within a fenced area and locked gates. Signs prohibiting unauthorized entry are posted. The cyanide mixing, storage and distribution tanks are located separately from incompatible materials. No chemicals are stored adjacent to the offload area.

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

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

La Herradura receives solid cyanide in isotankers and does not manage any empty containers, The solid cyanide in isotankers offloading does not require or produce rinse water. The isotankers are returned to the supplier after offloading.

La Herradura has implemented the Standard Operating Procedure PO-PL-19 Cyanide Preparation. Section 5.8 of the procedure for cyanide preparation requires that the upper part of the isotanker be rinsed with water after an offload is complete. Section 5.7 requires the valves to be closed followed by a check to ensure the isotanker is no longer pressurized. The auditor confirmed this is being done by field interviews with personnel responsible for performing this task. The auditors observed the initial portion of an offload event at the reagent area. A copy of the completed checklist was obtained and reviewed following the offload to verify that the checklists were completed according to the procedure.

For unloading and mixing activities la Herradura has written procedures as well as evidence that these procedures are being implemented. Procedures for these tasks are Standard Operating Procedures, training documents and checklists. Implementation of these procedures was verified by observation and interviews with the personnel responsible for performing these tasks.

The procedure for cyanide preparation contains detailed steps for operating the valves, couplings, and pumps on the dilution tank and the isotanker. The procedure is accompanied by a checklist that is co-signed by the isotank driver and the mine operator. The auditors reviewed examples of the completed checklist and observed an offload during the site visit to verify compliance. Isotankers are not handled or stacked.

The procedures for spills of solid cyanide or cyanide solutions require timely cleanup of cyanide spills during offloading. The procedure for cyanide preparation requires the use of personal protective equipment (PPE) consisting of face shield over safety glasses, hard hat, respirator, Tychem suit, steel-toe rubber boots, and rubber gloves. Other required equipment includes a harness for working at heights, radio, and portable HCN monitor. The isotanker offloads are observed by a second operator from inside an adjacent observation room.

Draslovka adds red dye to the isotanker at the time briquettes are loaded into the isotanker. La Herradura has therefore adopted the practice of dying the cyanide solution for ease of identification. The resultant high-strength cyanide solution contains colorant dye at a concentration which provides for clear visual identification and clear differentiation from other solutions or rainwater that may be present.

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

##### **Standards of Practice**

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:*

The operation has written management systems, plans and procedures for operating its cyanide facilities at the DLP in a manner which protects its workers and the environment.

With a concentration of 0.5 mg/l Weak Acid Dissociable (WAD) cyanide solutions or greater, the following are the cyanide facilities at La Herradura DLP:

- Cyanide preparation area (reagents area)
- Semi-autonomous grinding (SAG) mill and ball mill, consisting of two trains that use process solution
- DLP consisting of two trains with circuits for thickening, agitation, and countercurrent washing (LCC, by its acronym in Spanish) circuit.
- Contingency Pond for the DLP
- Merrill Crowe Plant at the Dynamic Leaching Plant (MCP-DLP) consisting of a sedimentation vessel (Hooper), clarification, deoxygenation tower, filter presses, zinc cone, and barren solution tank
- Process water and reclaim water tanks
- Re-pulping tank near the Tailings Storage Facility (TSF)
- Geomembrane-lined TSF
- Pipelines, pumps, valves and appurtenances associated with the above facilities

La Herradura has implemented management systems relevant to cyanide and/or safety and environmental management with the goal of preventing or controlling releases to the environment and exposures to the workers and communities as International Standards Organization (ISO) 14001 Environmental management certification, ISO 45001 Occupational health and safety management systems certification and Clean Industry program.

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The auditors reviewed the mine plans and Standard Operational Procedures (SOP) and interviewed the plant operators, maintenance and environmental personnel and supervisors demonstrating the operation understands how to manage cyanide in a manner that prevents releases to the environment and exposures to workers and the community.

The mine process flow diagrams, engineering designs and drawings, operating plans and standard operating procedures (SOP) identify the assumptions and parameters on which the design was based, as well as applicable regulatory requirements related to prevention of cyanide releases and exposures, allowing the operation to operate according to specific plans. Major parameters included in the operating plans and procedures are:

- Lime addition at the SAG mill: 2.5 kilograms/ton ore.
- Minimum pH for limiting HCN gas: 10.2 for cyanide solution preparation and 10.0 for DLP and MCP-DLP.
- Cyanide concentrations for SAG and ball mills and thickening around 200 mg/l free cyanide, agitation 260 to 350 mg/l free cyanide, LCC:130 to 200 mg/l free cyanide, ILR 15 to 20% free cyanide, MCP-DLP 100 to 200 mg/l free cyanide.
- The concentration of WAD cyanide in open water contained in the tailings facility <50 mg/l.
- The required freeboard for the tailings facility is 2 meters.
- The concentration of cyanide discharged to and allowed in surface water to comply with the applicable Mexican regulations.
- The minimum design for stormwater containment to be the 100-year 24-hour storm event for impoundments.

Plans and procedures were reviewed during the audit including SOPs PO-L-19 Cyanide Preparation, PO-PL-28 Agitation and Leaching in Reactors and PO-PL-23 Management of Cyanide and Solution Cyanide in DLP and MC-DLP which, among other SOPs, identify the assumptions and parameters to operate the facility. Interviews were held with personnel responsible for the operation and maintenance of the facility. Personnel showed good awareness of program requirements.

The operation's SOPs address the aspects of the operation that are necessary for protection of workers, communities and the environment. Specific items addressed in the procedures include water management procedures, such as how and when tailings solutions must be managed to retain the design storage capacity in these facilities, inspection programs for the cyanide facilities such as process tanks, pipelines and tailings impoundment. The preventive maintenance program for critical equipment are work orders produced automatically by the software Maximo. La Herradura has developed and implemented inspection and preventive maintenance programs for all the cyanide facilities including cyanide unloading, mixing and storage facilities; both DLP trains, ILR, MCP-DLP, and TSF. Inspections are conducted on a daily to monthly basis depending on the facility and type of inspection. La Herradura uses the Maximo software for

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identifying, assigning responsibility, scheduling and tracking the completion of the preventive maintenance activities and repairs. La Herradura reviews and updates its SOPs every two years. The auditors reviewed the set of SOPs to verify compliance.

La Herradura has a formalized procedure for managing changes to the production processes or operating practices. Section 6.5 of SOP PS-HE-01 Identification and Evaluation of Environmental Aspects, Dangers, and Risks and Establishment of Control Criteria requires that changes be evaluated via a risk assessment matrix for potential health, safety, and environmental impacts. The procedure evaluates changes to the facility or its operating practices that may increase the potential for cyanide releases and worker exposures before such changes are implemented so that they can be evaluated and addressed as necessary using the written procedure PS-HE-01-R03 Change Management Form which requires notification to environmental and safety personnel and sign offs by these departments before the change can be instituted. Verification was through a review of the procedure as well as completed forms that have been signed off by environmental and health and safety personnel during this recertification period and found to meet the requirements of the Code.

The operation's management system includes contingency plans for non-standard operating situations. These include measures to be taken in response to problems identified by facility monitoring or inspection, and temporary closure or cessation of operations due to situations such as work stoppages, lack of essential materials, economics, civil unrest, or legal or regulatory actions. Contingency actions are included in the operating plans and in the SOPs. The operation's planned responses to the potential issues are addressed.

La Herradura has developed contingency procedures for deviations and upset scenarios, as well as for temporary closure or cessation of operation. Section X, Analysis of Risks and Consequences, of the TSF Operation, Maintenance, and Surveillance Manual contains a failure modes effects analysis (FMEA) with contingency actions for pump failure, power outage, valve failure, human error, and external events such as earthquakes and extreme storms. The procedure for contingency pond emergency describes the steps to be taken in case overtopping of the emergency pond for the DLP is imminent. The procedure for stopping and starting the MCP-DLP includes measures in case of power outage, equipment failure, column failure, pipe rupture, pump failure, and temporary stoppage. The procedures for grinding, milling, thickening, agitation, LCC, and ILR have sections on contingency actions in case of power failure and equipment failure. Finally, the procedure for temporary stoppage of the DLP and the MCP-DLP addresses temporary closure and cessation of operations. The auditors reviewed these procedures to verify compliance.

The operation inspects diverse cyanide installations to confirm their integrity. Inspections are conducted periodically to ensure proper function. Inspection forms direct the inspector to evaluate specific items providing sufficient detail regarding what to look for or what condition is acceptable.

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La Herradura has inspected the following at unloading, storage, mixing and process areas. Tanks holding cyanide solutions for structural integrity and signs of corrosion and leakage. Performed ultrasonic testing for tanks and vessels at the DLP (both trains) and the MCP DLP. The reports concluded that all containers were suitable for continued use. Secondary containments provided for tanks and pipelines for physical integrity. The do daily inspection forms (PO PL 15 R08) for tank infrastructure that included inspection of secondary containments for the presence of fluids and available capacity. The DLP, MCP-DLP, and the TSF do not have leak detection systems. Pipelines, pumps and valves for deterioration and leakage are subject to daily inspection forms (PO PL 15 R08 and PO-PL-15 R09) that included pipelines, pumps, and valves for deterioration and leakage. Ponds and impoundments are subject of daily inspection forms (PO PL 15 R09) that included measurements of the water surface elevation in the TSF using staff gages installed at five locations. La Herradura updates the water balance monthly by rerunning the 100-year 24-hour flood scenario to verify that the minimum freeboard is available. Inspections to surface water diversion structures for run-on from upgradient watersheds are inspected once a year, due to the arid conditions of the area..

The auditors conducted field inspections during the site visit and verified the condition of tanks, secondary containments, pipelines, pumps and valves. These inspections also included cyanide unloading, mixing and storage facilities. Records of the inspections conducted by the mine to the cyanide facilities were reviewed by the auditors.

The operation inspections are conducted frequently enough to identify potential problems before they present a risk of cyanide release or exposure. The auditors consider inspection frequency is sufficient to ensure and document that equipment and features necessary for safe cyanide management are functioning within design parameters.

La Herradura conducts daily inspections at the DLP, MCP-DLP, TSF, and associated infrastructure and documents the inspections on forms. La Herradura also has conducted monthly leadership inspections of all areas, as well as monthly safety and hygiene inspections required by law. To verify compliance, the auditors observed examples of completed daily inspections over the certification period, as well as a tracking spreadsheet and examples of monthly inspections.

The mine provided inspection records showing the facility inspections are documented on inspection forms that include the date of the inspection, the name of the inspector, and any observed deficiencies. The nature and date of corrective actions are documented in maintenance records. The auditor reviewed the operation's inspection records and maintenance records verifying that this information is recorded. La Herradura maintains these records, which the auditors reviewed to verify compliance.

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The operation has a preventive maintenance program for its cyanide facilities where a failure can result in a cyanide release or exposure. These activities are scheduled with the Maximo software and documented, along with the basis for the maintenance frequency, such as hours of operation and set time periods between maintenance.

The software schedules maintenance according to the following classifications: preventative, unprogrammed, corrective, and basic. The basic classification consists of daily area inspections by maintenance staff. The workflow consists of work orders, scheduling, execution, completion, and closure. The auditors reviewed maintenance histories for randomly selected equipment from the DLP, MCP-DLP, and TSF related to cyanide to verify compliance, including a cyanide transfer pump, a sump pump, a filter clarifier, a positive displacement tailings pump, a peristaltic dosing pump, and an LCC pump. The auditors also reviewed maintenance histories for the fixed cyanide monitors, pH monitors, and selected tank level sensors to verify compliance.

The auditors inspected the cyanide facilities, reviewed the maintenance records and interviewed employees determining compliance with this provision.

The operation has emergency generators to power pumps and other equipment, as necessary to prevent unintentional releases and exposures in the event its primary source of power is interrupted. La Herradura has installed backup generators to run the agitation and LCC circuits in the DLP to prevent unintentional releases and exposures if the primary power source is interrupted. Each train of the DLP has a backup generator. These generators are regularly maintained and tested according to a written procedure. La Herradura staff stated that the MCP-DLP and the TSF are not equipped with backup generators because all fluid movement would stop in a power outage. The auditors reviewed the procedure and maintenance records to verify compliance and observed the generators in the field verifying that the operation maintains and tests this equipment as necessary to ensure that it is functional if and when needed.

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:*

The mine has ongoing programs to determine if the standard rate of cyanide addition in the ore processing facility is sufficient, but no greater than that required, to optimize gold and silver recovery. The auditor verified the operation implements this program. The procedure identify anticipated changes in the characteristics of the ore fed to the mill and modify the cyanide

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addition rate accordingly. The operation implements a program of sampling and analysis of tailings to determine residual cyanide levels and to allow for the adjustment of addition rates in real time as necessary to maintain optimal dosing.

La Herradura has implemented manual and automatic control strategies for cyanide addition. The manual strategy for both trains of the DLP consists of sampling every four hours at the thickener, the seven agitation reactors, and LCCs 1 and 5, followed by analysis in the onsite laboratory. The automatic strategy in the first train of the DLP consists of a CyanoProbe sampler that controls a variable speed drive for the cyanide addition pump at the first agitation reactor. Installation of a CyanoProbe in the second train of the DLP was pending at the time of the site visit. The auditors reviewed operator log sheets and a spreadsheet of CyanoProbe output to verify compliance.

La Herradura conducted an initial program to determine appropriate cyanide addition rates in the mill and has evaluated changes in the addition rates on an as-needed basis when ore types of change. As stated in the last audit report, the initial program of bottle roll tests in 2011 resulted in an addition rate of 250 grams/ton of cyanide and a target concentration of 300 mg/l free cyanide in the agitation circuit. Testing in late 2018 evaluated the addition rate for the sulfide portion of the ore body and indicated a higher addition rate may be needed in the future.

In occasion of this audit, the auditor interviewed the process plant advisor and reviewed the laboratory report spreadsheet for this certification period to verify compliance. The internal laboratory of the mine constantly performs analyzes that indicate the grade of gold and the mineralogy of the ore and perform bottle tests to determine the recovery rate. Based on these reports the plant advisor indicates the optimal cyanide dosage. For this purpose samples are taken every 4 hours from the pulp to determine the cyanide concentration operating values which is 300 to 350 parts per million. SOPs PO-PL-28-Reactors (Agitation-Leaching) and PO-PL-29-Thickener-Wash-Countercurrent describe the sampling procedures referring to reactors and thickeners and countercurrent washing to determine the amount of free cyanide. If the cyanide is high the dosage is lowered. It is also controlled in the titration area to determine the amount of cyanide in a specific sample but they have seen that there is not as much variability in the material currently.

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:*

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The auditor confirmed that the operation has prepared and implemented a water balance that it has considered the appropriate factors, and that the site implements the necessary practices to maintain the balance on an ongoing basis to prevent overtopping of the TSF. La Herradura operational water balance has a monthly time step. The model is comprehensive as it has considered the factors necessary for such an evaluation, including the tailings deposition rates, precipitation, evaporation and seepage rates, and undiverted run-on from upgradient areas. It is also probabilistic as the water balance model considers the uncertainty and variability inherent in the prediction of precipitation patterns. The frequency and distribution of precipitation are considered along with extremes and seasonal variations. The model includes scenarios for the 100-year 24-hour storm, the probable maximum precipitation, and a wet year. The auditor reviewed the spreadsheet to verify compliance.

The fundamentals of the water balance has not changed since the last certification audit because the operating conditions have not changed. However, La Herradura does update the model using on-site meteorological data. The model considers the following as appropriate for the facilities and the environment:

The model is updated monthly with the measured tailings inflow rates and solids and water volumes estimated from the total slurry volume.

The default scenario in the water balance is the 100-year 24-hour storm of 184 millimeters (mm). However, by interview, La Herradura presented results for the 100-year 24-hour storm during a wet year and the probable maximum precipitation of 342 mm. The model is updated monthly, and the 100-year 24-hour flood scenario is rerun with each update to verify that the minimum freeboard of 2 m is available. These three scenarios, along with the monthly updating, provided confidence that La Herradura is continually evaluating the potential for overtopping of the TSF.

As stated in the last audit report, precipitation data from a government-run weather station in Sonoita, Sonora (approximately 78 km from the site) were calibrated to the site precipitation data to create a record from 1948 to 2018 for use in the water balance. Evaporation was calculated from solar radiation, wind, and temperature from the site weather station. Both precipitation and evaporation represent site conditions. Since year 2020 the mine has a new on-site Campbell Scientific automated weather station transmitting meteorological data in real time improving the quality of existing precipitation and evaporation data in representing actual site conditions.

Run-on from the stockpiles to the north of the TSF is not diverted and is therefore considered in the model using US Soil Conservation Service curve-number methods to account for watershed conditions.

Freezing and thawing conditions are extremely rare in the Sonoran Desert, they are not considered in the water model.

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Solution losses considered in the model are pumping of reclaim water and evaporation. Evaporation is estimated separately for the free water surface of the decant pool and the wet tailings surface. Seepage is not considered because the TSF is lined with geomembrane. In the event of a power outage, tailings flow into the TSF and reclaim water flow out of the TSF would simply stop.

La Herradura does not treat and discharge water. Rather, La Herradura reuses tailings decant water because of the arid climate at the site.

No other aspects of facility design that could affect the water balance were identified. Groundwater is deep and, in any case, the TSF is geomembrane lined.

The water balance and design documents for the TSF were reviewed to confirm that a minimum freeboard over the design storage capacity is specified. The operation's inspection records were reviewed to verify that this facility is operated with adequate freeboard. La Herradura has designed and operated the TSF with adequate freeboard above the storage capacity. Mexican regulations require 1 m minimum freeboard, but La Herradura has adopted a minimum freeboard of 2 m, as stated in two reports: (1) Engineering Design Report for Stage 3; and (2) the Determination of the Maximum Extraordinary Water Levels for the TSF. As directed in Section VII of the Operation, Maintenance, and Surveillance Manual, the monthly model updates must use current data and rerun the 100-year 24-hour storm scenario to verify that the minimum freeboard is continually available.

Inspections and monitoring activities necessary to ensure that the operation follows its water balance have been included in its operating plans. This includes items such as monitoring of the freeboard and solution volume in the TSF. Inspections to surface water diversion structures for run-on from upgradient watersheds are inspected once a year, due to the arid conditions of the area. Verification was based on a review of the facility's operating plans and procedures and inspection records verifying inspection and monitoring activities are being conducted. La Herradura has implemented the water balance with operating procedures to prevent overtopping of the TSF and unplanned discharge of cyanide solutions to the environment. The water balance is updated monthly based on current precipitation and evaporation data, as well as monthly drone surveys of the exposed tailings and water surfaces in the TSF. Water surface elevations are measured daily using staff gages installed at five locations and recorded on an inspection form. Each model update reruns the 100-year 24-hour flood scenario to verify that the minimum freeboard is available.

The operation measures precipitation at the site and routinely compares it to the design assumptions used to develop the water balance model. The operation monitors on-site precipitation. The operation provided monitoring records for the auditor's review. La Herradura measures precipitation at the weather station at the site, as well as another weather station at

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their nearby Noche Buena Mine. These data were compiled in the BD Lluvias tab of the spreadsheet model. Precipitation data were most recently compared to design assumptions in a 2017 Climatic Characterization report. That report contained a higher value for the 100-year 24-hour storm (184 mm) than the most recent design report for Stage 3 of the TSF (117 mm). Accordingly, La Herradura uses the higher value in its operational water balance. In addition, the 2017 report estimated the probable maximum precipitation as 342 mm. Therefore, La Herradura has measured precipitation and revised operating practices, as necessary.

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:*

The only cyanide facility at the DLP with open water is the TSF. Even though the TSF in general did not have concentrations of WAD cyanide greater than 50 mg/l during the recertification period, the operation has installed a barbed wire fence along the property line approximately 600 m from the TSF to restrict access by wildlife and livestock. In addition, the La Herradura has installed netting of the LCC columns to prevent bird access, even though the Code does not require this measure.

La Herradura provided internal and external analytical data showing the open water in the TSF did not have concentrations exceeding 50 mg/l during the recertification audit period. An external laboratory, ALS, samples at four tailings spigots on a monthly basis and analyzes them for free, WAD, and total cyanide. La Herradura staff collect water samples from the decant pool every 2 or 3 days for analysis of WAD cyanide in the internal laboratory. Both sets of data consistently showed WAD cyanide concentrations bellow 50 mg/l.

La Herradura has prevented significant wildlife mortality in the open waters at the TSF by maintaining WAD cyanide concentrations less than 50 mg/l. Although the DLP and MCP-DLP do not have any open waters, La Herradura nonetheless inspects them daily for wildlife mortality. Based on daily inspections completed according to a written procedure, there were no wildlife mortalities during the recertification period. This was confirmed by reviewing the monthly summaries of safety and environmental incidents for that same period. The auditor concluded that the measures to restrict wildlife, cattle, and birds are effective in preventing mortalities.

There is no heap leach facility associated with the DLP.

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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:*

La Herradura does not have any direct discharges to surface water due to the extreme aridity at the site. Also, the mine does not have any direct or indirect discharges to surface water. The operation annually inspects the diversions through and around the site for the presence of seeps into these normally dry channels.

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

- 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:*

La Herradura has implemented specific water management measures to protect the beneficial use of groundwater beneath and immediately down-gradient of the operation. Plant areas and pump stations have concrete secondary containments and floors, and pipelines were installed in secondary containment. The TSF was geomembrane lined. These measures limit the potential for solutions to percolate to groundwater, which in any case is found 90 to 100 m below ground surface.

The applicable groundwater standard promulgated by the Mexican authority PROFEPA (Federal Environmental Protection Authority - Environmental agency) is 0.02 mg/l total cyanide for irrigation use. There is no designated point of compliance, but La Herradura samples two groundwater monitoring wells downgradient of the TSF, DLP, and MCP-DLP every 6 months. The total cyanide results during this recertification period were non-detect at 0.012 mg/l for both wells. Therefore, the concentrations of the applicable species of total cyanide were below regulatory standards for the designated beneficial use of irrigation in the years preceding the site visit.

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La Herradura does not use mill tailings as underground backfill. La Herradura does not have seepage that has caused cyanide concentration of groundwater to rise about levels protective of beneficial use and therefore no remedial activity is currently required.

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:*

Secondary containments are installed at the DLP Trains 1 and 2 for tanks containing cyanide solution, including leach tanks, tailings thickeners, and all other process solution tanks and vessels with 0.5 mg/l or greater WAD cyanide concentrations. The design drawings were reviewed in the previous audit and were found in conformance. Containments are sized and in most cases are connected such that they can convey solution to the next containment without overflowing and without relying on pumps. As stated in the previous audit report, La Herradura has provided secondary containments built-in concrete floors and walls for the following tanks with high-strength cyanide and other tanks, columns, and vessels with process solutions:

- Dilution, storage, and dosing tanks with a sump and automatic pump to return solution to the circuit.
- DLP Trains 1 and 2: thickeners, LCC vessels and agitators with sumps with automatic pumps, as well as gravity flow interconnections.
- Process solution tank and reclaim water tank for DLP Train with gravity flow to the secondary containment for the agitators in DLP Train 1.
- Process solution tank and reclaim water tank for DLP Train 2 with gravity flow via other containments to the Contingency Pond.
- Re-pulping tank at TSF with gravity overflow to the adjacent TSF.
- MCP-DLP with a common concrete secondary containment with grated concrete channels leading to a sump with an automatic pump to return solution to the circuit..
- The ILR inside the mill building for the DLP Train 2 has a sump with and automatic pump.

All secondary containments have adequate capacity to hold the volume of the largest tank within the containment as well as solution from any piping that would drain back to the tank and additional capacity for the design storm event. The adequacy of the containment's capacity was assessed during the last cyanide audit and found it in conformance. The undersized containment for the agitators drains by gravity to the containment for the thickeners, which in combination, have an excess of capacity of 176% greater than the largest vessel in either containment. The

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auditor reviewed the last audit report data on tanks size and calculations of the containment's available volume to confirm this, accounting for the volume occupied by the tanks themselves or any other equipment and/or associated foundations. The auditor also verified through visual observation that there are no materials stored within the containment that compromise this capacity.

La Herradura has a written procedure describing how any cyanide solution or cyanide-contaminated water that is collected in a secondary containment area is handled, how the operation determines if the water contains cyanide or not, and what is done with the water. The system, in addition, is designed with sumps and dedicated pumps and piping to return all such water to the production process. The system is subject to inspections and preventive maintenance. The procedure describes the operation of the sumps with automatic pumps and gravity-flow interconnections to prevent a discharge to the environment. All liquids in the containments are considered process solutions and are returned to the process circuits.

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

La Herradura has provided spill prevention and containment measures for its cyanide process solution pipelines to collect leaks and to prevent releases to the environment. High-strength cyanide pipelines between the storage area and the addition points have been installed over metal trays or over concrete.

Process solution pipelines within the DLP and within the MCP-DLP have been installed over concrete, except for an elevated reclaim water pipeline on the south side of the agitators in DLP Train 2 that is over earthen fill between a concrete secondary containment wall and a concrete driveway. Although in the previously audit it was considered that given that groundwater is approximately 100 m deep, the climate is extremely arid, and the WAD cyanide concentration in the reclaim water is low, and that La Herradura adopted an approach of detailed inspections twice daily, in occasion of this audit the auditors requested to install secondary containment under this elevated reclaim water pipeline. Also was observed the pipes between the DLP and the tailings dam with incomplete secondary protection in the pipe drawer area ( pipes crossing); the area behind the dam control room, where there is a gate valve, also lacked secondary containment. These items were found in substantial compliance.

The mine was required to complete the secondary containment in both cases and to repair the secondary protection of the pipes in this path, where needed. After the audit, the mine sent works orders, a work schedule and finally sent pictures showing this work was finished providing the necessary secondary containment to all the required pipelines. No additional actions were required to find these items in full compliance.

Process solution pipelines between the DLP and the MCP-DLP have been installed pipe-in-pipe. Tailings and reclaim water pipelines between the DLP and the re-pulping tank have been

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installed within two rectangular concrete launders, or where they cross over an access road, in a single large metal tray. The pipelines between the re-pulping tank and the TSF. Pipelines from the process water and reclaim water tanks on the hill to the DLP have been installed pipe-in-pipe and over concrete.

No pipelines associated with the DLP cross any water courses. The arid climate results in only ephemeral water courses without any perennial waters or ponds.

La Herradura has constructed tanks, columns, vessels, and pipelines of materials that are compatible with cyanide and high pH conditions. The tanks, columns, and vessels were all constructed of mild steel with industrial coatings. The pipelines were constructed of high-density polyethylene (HDPE), stainless steel and mild steel with industrial coatings, depending on the pressure inside the pipes. The auditors observed these materials to be in good condition.

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  
 not in compliance with Standard of Practice 4.8

*Describe the basis for the Finding/Deficiencies Identified:*

Quality assurance/quality control (QA/QC) programs were implemented during the construction and extension of the cyanide facilities. All major installations such as the tailings impoundment, the DLP and equipment, reagent-strength cyanide tanks, and the concrete containments, supports and piping related to these facilities were built with QA/QC programs. As confirmed in the previous audit reports the operation had all appropriate QA/QC documentation evidence for facilities constructed prior to the current audit cycle.

During the period since the previous audit the operation demonstrated that QA/QC programs were implemented for the TSF Phase 3 construction, the tailings storage facility regrowth. The Quality Assurance Report at the completion of Phase 3 provided evidence of a thorough QA/QC program. The final Quality Assurance Report for Phase 3 of the TSF was reviewed for evidence of the QA/QC program.

La Herradura has completed QA/QC programs that addressed the suitability of materials, adequacy of compaction, installation of geomembrane liners, and other items. As confirmed in the previous audit reports the operation had all appropriate QA/QC documentation evidence for facilities constructed prior to the current audit cycle.

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During the construction of the TSF Phase 3 many QA/QC reports prepared by SEI Tetra covered materials suitability, earthworks placement and compaction, laboratory testing and liner installation, as well as as-built drawings. The analogous report for the completion of Phase 3 was available and complete at the time this site audit. The project specifications address the requirements and procedures for material selection, handling, installation/construction and testing. The CQA (Construction Quality Assurance) plan addresses testing frequency, methodology and required minimum results for all significant earthwork and geosynthetic installation components. The CQA completion report contains weekly construction reports, construction photographic records, laboratory testing reports for the soil materials utilized during the construction, geosynthetics manufacturing QC records and field CQA testing of the geosynthetics installation.

The operation retains its QA/QC information for all active cyanide facilities. QA/QC records were available, to confirm that the operation has retained its QA/QC records for all active cyanide facilities that were constructed prior to the initial Code certification audit, as well as for the construction of the TSF Phase 3 corresponding to this recertification period.

As stated in the previous certification audit report, qualified engineering companies performed the QA/QC inspections and reviews during construction and prepared the final construction reports certifying that the facilities were constructed in accordance with the design drawings and technical specifications. Construction records include a sign-off by appropriately qualified engineering degree persons with a professional registration and previous experience with QA/QC and construction practices.

The Quality Assurance Report for Phase 3 of the TSF include a conclusions section that states that staff from Ingeniería Geomex, S.A. de C.V (Geomex) observed the construction and testing, and that Geomex confirms the construction was completed according to the plans and specifications. The report was signed by the directing engineer, QA/QC engineer, and QA/QC supervisor as evidence of qualified review.

La Herradura has as-built drawings/certification for all cyanide facilities which are properly stamped by a qualified engineer.

4.9 Implement monitoring programs to evaluate the effects of cyanide use on wildlife, and surface and groundwater quality.

- The operation is:  in full compliance  
 in substantial compliance  
 not in compliance with Standard of Practice 4.9

*Describe the basis for the Finding/Deficiencies Identified:*

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La Herradura has developed written standard procedures for wildlife, tailings, and groundwater monitoring activities. Surface water monitoring is inapplicable because of the extreme aridity at the site. La Herradura has prepared and implemented a written procedure that includes daily wildlife monitoring and steps for reporting mortalities. During this certification period La Herradura contracted ALS-INDEQUIM SA DE CV, the analytical laboratory in Monterrey, a subsidiary of ALS Laboratory Group (ALS) for monitoring activities. ALS has developed a written procedure manual for monitoring various types of water, including those applicable to the site (i.e., tailings and groundwater).

Sampling procedures have been developed by appropriately qualified person operational personnel and by external parties with specific reference to preparing environmental monitoring and analysis plans, holding a degree in an appropriate scientific discipline and experience with sampling and analytical techniques. ALS prepared the sampling plan.

ALS is accredited by the Mexican Accreditation Entity (EMA). ALS's procedure PT-40-12 Tailings Samplings R-5 and procedure PT-40-01 Procedure for Sampling Water and Wastewater Sampling R-11, were developed by Arturo Jáuregui Mancera – ALS's sampling Coordinator, professional register No 3395235, Bachelor's Degree in Industrial Chemistry with 21 years of experience. The ALS Quality Manager endorsing the document is Josefina Pérez Treviño, professional register No.1453058, Pharmaceutical Chemist Biologist degree with 30 years' experience.

The sampling procedures and sample handling procedures developed by contracted laboratory ALS prescribes the sampling equipment, methods, containerization, preservation, and shipping instructions. It also contains blank field forms and a blank chain-of-custody form. The laboratory staff conduct the sampling and transport the samples to the laboratory. The procedure specifies analysis for total and WAD cyanide. ALS collects tailings and ground water samples with supervision from la Herradura personnel. The auditors reviewed examples of completed chain-of-custody forms and field forms showing proper use of the forms for the period of this recertification audit. La Herradura Environmental Sampling and Monitoring Program 2022 specifies the location of the sites to be monitored by extracting samples from the tailing's storage facility and from monitoring wells at this site and at the process plant, up and down gradient. The auditors also reviewed a map showing the groundwater monitoring wells' locations around the site.

The operation has field reports where sampling conditions that may affect the analysis are recorded, as weather, livestock/wildlife activity, anthropogenic influences. The ALS samplers document weather and other conditions on field data sheets that are filled out at the time of sampling. The field forms document request for services, the chain-of-custody, the containers, preservatives, sampling equipment, calibration of field instruments, field parameters during purging, wellhead conditions, weather conditions, the list of constituents, and observations of

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other conditions that may affect the sample integrity. The auditor reviewed completed field forms for tailings and groundwater sampling verifying that the operation actually records this information.

La Herradura has conducted monitoring at frequencies adequate to characterize the medium being monitored and to identify changes in a timely manner. Groundwater is monitored every 6 months, which is an appropriate frequency for the deep groundwater at the site. Tailings at the spigots are monitored monthly and the decant pool is monitored every two to three days. Wildlife mortalities at the TSF are monitored daily. There is no surface water to be monitored given the extreme aridity at the site.

## 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, livestock, and the environment.

- 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:*

The auditor confirmed that the operation has a decommissioning plan. The plan for cyanide facilities is within the closure plan for the entire operation. The closure plan addresses the cyanide remaining on site upon cessation of production activities and prepares the site for its closure and post closure period, treating and managing cyanide and cyanide containing process solutions remaining in storage and production facilities in preparation for closure so that they do not present a risk to people, wildlife or the environment due to their cyanide content. The operation has written plans to conduct the necessary activities, as applicable to its cyanide facilities. La Herradura decommissioning plan, among others, includes activities such as:

- decontamination of equipment;
- removal of residual cyanide reagents;
- neutralization of process solutions; and
- installation of measures necessary for control or management of surface or groundwater

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such as pumping and treatment systems that would operate during the facility's closure period.

These procedures are included in the La Herradura Conceptual Closure Plan. The closure planning covers the DLP. This plan was most recently updated by SRK Consulting in 2016. The plan includes the DLP, MCP-DLP, and TSF, as well as activities related to disposition of residual chemicals, and decontamination. A 2018 SRK Technical Memorandum incorporates Stage 3 of the TSF. Decontamination procedures are detailed in Appendix D of the Conceptual Closure Plan, including rinsing and use of sodium hypochlorite to destroy cyanide to concentrations of WAD cyanide <0.5 mg/l. No additional measures are proposed for post-closure management of groundwater or surface water.

The operation's decommissioning plan and procedures include a schedule for carrying out its proposed activities. The schedule show the order in which the planned activities will be conducted and the duration of each activity starting from the point in time the operation ceases production or an individual cyanide facility is no longer in use.

Appendix C of the SRK Conceptual Closure Plan discusses the general schedule for closure, including decommissioning activities. It details the closure schedule in generic years, with three years of pre-closure activities, three years for closure activities, and 17 years of post-closure activities from year 4 to year 20. The decommissioning activities take place in the 3-year closure period.

The decommissioning plan has been reviewed and revised during this certification period to keep it current and applicable to the actual ongoing operation as it changes over time. The operation updates its plan biannually to reflect changes in the operation as they affect decommissioning, as well as changes in planned decommissioning techniques and measures.

The mine's decommissioning plan include a provision requiring its periodic review and revision. The auditor saw versions of the closure plans from years 2014, 2016, 2018 and the most recent version from 2020 which was subject to review during this audit, confirming that the current plan addresses all expansions and modifications to the operation that materially affect the plan and its estimated cost. Section 10.5 of the plan includes a list of the differences between the versions of the plan.

5.2 Establish a financial 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

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

The operation has a cost estimate for financial assurance. The cost to fully fund the closure plan is the cost for a third-party contractor to mobilize, conduct the planned activities, and demobilize from the site.

The cost estimate prepared by SRK is based on rates applicable to an outside contractor. The cost estimate include line items for site cyanide-related decommissioning activities and corresponding costs. The updated closure plan updated by SRK in 2020 includes an estimate of the cost to fully fund third party implementation of all closure activities at La Herradura. The closure planning covers the DLP and the separately certified heap leach facilities (HLF) at La Herradura. The closure costs cover the cyanide-related decommissioning measures. Section 10 of the plan states that the costs represent a third-party basis, and the notes accompanying the cost estimates in Appendix A support that third party costs were used. This cost includes decontamination, disposal of residual solutions and other decommissioning measures for all cyanide facilities including the DLP, MCP-DLP, and the TSF.

Decommissioning cost estimates are reviewed and updated biannually, including changes made to the plan that effect cyanide-related decommissioning activities and costs. Versions of closure plans from years 2014, 2016, 2018 and the most recent version from 2020 were available for review.

The Mexican government does not require financial guarantee in the form of an approved financial mechanism. The operation has established self-insurance or self-guarantee to cover the costs of cyanide-related decommissioning.

Self-insurance is the mechanism established by the mine as a financial guarantee for mine closure. The mine provided documentation from an external qualified financial auditor attesting that the mine has sufficient financial strength to fulfill this obligation. The financial evaluation used the most recent audited financial data performed by Mario Arreguín Frade, Fresnillo plc Finances Director, reported in Annex A "Statements of the administration of Minera Penmont, S. de R.L. de C.V. and supplier of equipment Fresne, S.A. de C.V. (hereinafter "Penmont") in relation to compliance with the requirements of Section 40 CFR 264.143 (f) of the "Code of Federal Regulation" of the United States of America", place and date from Torreón, Coahuila, a 04 de Julio de 2022.

The qualified financial auditor C.P.C. Alejandro Morán Sámano, Audit Partner Mancera S.C., member of Ernst & Young Global, reviewed Annex A reporting that in his opinion, the calculations and statements made in the Statements section of the administration of Annex "A", are correct. Signed, place and date Ciudad de México July 4, 2022.

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## 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 for the DLP process 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 DLP trains, Merrill Crowe plant (MC-DLP); entry into confined spaces; equipment decontamination prior to conducting maintenance activities; stoppage and startup of the DLP and MC-DLP plant; among others. There are approximately 15 procedures related to cyanide management. In addition, La Herradura has achieved in 2019 ISO14001:2015 certification of its environmental management system and ISO45001 certification for its safety management system. Both certifications are valid for three years. The procedures are reviewed every two years and updated as necessary. All procedures include a section related to PPE requirements, considerations of safety hazards, potential impacts to worker exposure and the environment, permits needed to conduct the task, and a reaction plan in case of upset conditions. Procedures were reviewed and found to be sufficiently detailed to enable safe operation and to minimize worker exposure.

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 January 2022, 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, work permits, description of the tasks, reaction plan, registers, appendices and log of changes to the procedures. Prior to conducting an activity, pre-work inspections are completed when applicable to help identify PPE needed for that activity. The auditors verified that a pre-work inspection was completed prior to the cyanide

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mixing event. Pre-work inspections for cyanide mixing were reviewed for the recertification period and were found to be complete. Examples of permits for working in confined spaces 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 implemented several mechanisms to take into account worker input for the development of health and safety procedures, including beginning of Shift Meeting (RIT meetings), 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 monthly 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 practices. The auditors reviewed examples of completed working cycles reviews. Other mechanisms include Safety weekly meetings, where workers have the opportunity to provide opinion about safe work practices and procedures. These meetings were suspended in 2020 due to COVID-19 restrictions and La Herradura resumed them in 2022; 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; and Incidents/accidents investigation, where operators and unionized workers participate and have the opportunity to provide feedback related to safety.

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:*

La Herradura has determined the appropriate pH for limiting the generation of HCN gas during cyanide mixing and other process activities at the DLP. Specifically for the cyanide mixing activity, procedure PO-PL-19 "Cyanide unloading from isotainer" indicates that during cyanide offload the pH should be above 10.2 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. Procedures PO-

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PL-28 “Reactors operation” and PO-PL-29 “Countercurrent washing thickener operation” indicate that pH values in the process solution should be maintained above 10. If required, lime is added to the mills to maintain pH levels above 10. The operation has online pH probes located at key locations in the reagents area for cyanide mixing and throughout the DLP trains and the MC-DLP. The auditors observed that the pH values are displayed at each monitoring point and on a panel in the control room. In addition, La Herradura samples and manually measures the pH during offload events and several times during each shift to ensure that it is being maintained at a high enough level to prevent the generation of HCN gas. The auditors confirmed this through interviews with process personnel, and review of pH logs for cyanide mixing and time-series graphs of pH at various stages in the process on the control room panels. Historical data was reviewed showing pH levels versus HCN gas levels for the recertification period. Generally, measured pH values were meeting the values specified in the procedures mentioned above. pH meters are maintained on a monthly basis as part of the preventive maintenance program. The auditors also reviewed calibration records for the pH meters to verify that La Herradura has maintained them in proper working order. Operators are required to register pH levels in the checklist during cyanide offload events.

La Herradura has identified areas at the DLP 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 at the DLP, most recently in 2018, to identify the areas of potential worker exposure to cyanide and to evaluate the need for installing new fixed HCN monitors and/or relocating the existing monitors. As a result, an additional fixed HCN monitoring equipment was installed in the DLP2 area. The risk assessments were conducted using ambient air data and HCN concentration values measured with a portable HCN monitor at the areas where cyanide is used. La Herradura has installed fixed HCN monitors at areas where workers may be exposed to HCN gas (cyanide mixing area, leaching tanks at DLP1 and DLP2, Intensive Leach Reactors at DLP1 and DLP2, MC-DLP clarifier area, and MC-DLP zinc cone area). Fixed monitors are monitored continuously in the process plant control room. In addition, portable HCN monitors are used by operators and maintenance personnel where HCN gas can be present. The auditors sampled HCN data for both fixed and portable monitors for the recertification period at these locations and verified that values recorded were generally below 4.7 ppm. Procedures for cyanide handling during cyanide mixing and the DLP processes identify the potential for worker exposure to cyanide and require the use of the portable HCN monitors as part of the required PPE. Signage listing the PPE requirements to enter a cyanide facility has also been installed at appropriate locations. Fixed HCN sensor alarms are set at 4.5 ppm (notification alert) and 10 ppm (evacuation alarm). Notification means an alert in the control room and response / attendance by an operator to determine the appropriate actions.

La Herradura has a total of 17 fixed HCN monitors MSA Ultima X at both DLP1 and DLP2, These fixed monitors are located at the cyanide mixing area, leaching tanks, Intensive Leach Reactors, MC-DLP clarifier area, and MC-DLP zinc cone area. Fixed HCN monitors are checked every shift

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by process personnel, and calibrated every month to ensure that the equipment is working properly. According to recommendations of the manufacturer, HCN monitors should be calibrated every six months. Portable HCN monitors MSA Ultima X (46 in total at both DLP1 and DLP2) are in use during operations where cyanide is present. 42 monitors are for the use of plant operators, and the other 4 are for use by the emergency brigade and the clinic. The Instrumentation area is in charge of maintaining and calibrating these portable monitors. Personal protection equipment (PPE) requirements defined in cyanide handling procedures and maintenance procedures call for the use of a personal HCN monitor during specific operations where there is a potential for exposure to HCN gas. Operators and maintenance personnel were observed using these monitors throughout the audit. Fixed and portable HCN monitors are set up to produce a visual and sound alarms at 4.5 ppm and 10 ppm, respectively, to limit worker exposure to HCN.

HCN fixed and portable monitors are calibrated on a regular basis and records are kept in the maintenance system called MAXIMO. Fixed cyanide monitors are calibrated every month to ensure that the equipment is working properly. The Instrumentation area keeps records of calibration for the MSA Serie Ultima X fixed monitors. According to the manufacturer, these monitoring equipment should be calibrated every six months. Portable HCN monitors are calibrated every month to ensure that the alarms at 4.5 and 10 ppm are set and working properly. According to the manufacturer, these monitoring equipment should be calibrated every six months. Calibration records for the fixed and portable monitors are maintained indefinitely and were available for review. The auditors reviewed maintenance and calibration records for both fixed and portable monitors and found them to be complete.

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. The auditors completed visual inspections of signage at the cyanide mixing area, DLP, MC-DLP, tailings pipelines and tailings storage facility and found that signage was adequate. Induction training for employees includes information on typical warning signage used at La Herradura for cyanide.

High strength cyanide solution is dyed in red color for clear identification. La Herradura uses sodium cyanide from Chemours (now Draslovka). Draslovka sends the dye mix inside the isotainers together with the cyanide briquettes so that during the mixing operation, the high strength (>20%) cyanide solution turn into a red color solution. This requirement was visually verified by the auditors during the field visit.

La Herradura has installed showers, eye wash stations and fire extinguishers at strategic locations throughout the DLP facilities in all areas where there is a potential for exposure to cyanide. Additionally, portable eye wash solutions were found at remote locations. Showers and

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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 they are operational 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. There are 198 extinguishers at DLP1, 117 at DLP2 and 69 at MC-DLP. Fire extinguishers are inspected and tested monthly by an external contractor. The auditors randomly checked fire extinguishers to confirm they are an acceptable type for use with cyanide. Verification was through visual inspection of showers, low-pressure eyewash stations and fire extinguishers in areas where cyanide is used, and review of inspection records. The auditors verified that the showers and eyewash stations are functional and that water pressure in the eyewash stations are appropriate. In addition, maintenance and recharge of the fire extinguishers is conducted annually or as needed.

La Herradura has identified tanks and pipelines 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 identify contents. 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. 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 DLP facilities. During the visual inspection of the DLP and interview with operators, there is evidence that workers are aware of the meaning of signage applied in the operation to identify cyanide presence. The auditors considers that signage used to identify cyanide tanks and piping is adequate.

La Herradura has available Safety Data Sheets (SDS) 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 SDS was provided by Chemours (now Draslovka) and the auditors verified that it corresponds to the latest version provided by the manufacturer. In addition to the SDS sheets, signage is available to alert personnel from chemicals, and required emergency response requirements in the high risk cyanide areas. The auditors found evidence of SDS and first aid procedures located at the observation room by the cyanide mixing area, the control rooms at DLP1 and DLP2, leaching tanks, the MC-DLP, and at the clinic. Verification was conducted by visual verification of material included in the binders.

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

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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 recertification cycle requiring the implementation of the emergency response procedures, or notification to ICMI.

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 necessary safety equipment including antidote kits, fresh water, oxygen, resuscitators, radios, telephones, and alarm systems at the cyanide mixing area, DLP facilities process plant areas, and at the clinic. Cyanide antidote kits consisting of amyl nitrite ampoules with expiry date information are located within small refrigerators fitted with thermometers to ensure that the ampoules are stored within a regulated temperature range between 36° and 46°F. Antidote kits are stored at four key locations: observation room by the cyanide mixing area, leaching tanks, MC-DLP, and at the chemical lab. The kits consist of amyl nitrite, activated carbon, water, oxygen, masks, and gausses. Operators are required to carry a radio while performing their tasks in the most critical areas where 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 DLP facilities. Amyl nitrite, resuscitators, and sodium thiosulfate/sodium nitrate are also available at the clinic. Two ambulances are also located in the clinic. Automated External Defibrillator (AED) resuscitator equipment is located at the site's clinic and in the ambulances. The ambulances also carry oxygen bottles. The clinic also has medical oxygen bottles, and cyanide antidotes (amyl nitrite and sodium thiosulfate/sodium nitrate).

Emergency response equipment is regularly checked by both Process personnel and medical personnel. This includes inspections of cyanide antidote kits (amyl nitrite), first aid kits, eye wash stations and emergency showers. Inspections include checks of expiration dates of cyanide antidote kits and storage at the recommended temperature range. The medical area is in charge of replacing cyanide antidotes when required. Medical personnel periodically inspect the sodium

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thiosulfate/sodium nitrate antidotes. Amyl nitrite ampoules are stored according to manufacturer specifications in refrigerators at strategic locations throughout the operation to ensure that areas where cyanide exposure may occur have immediate access to the antidote. Oxygen tank pressure and amyl nitrite expiration dates were checked during the audit. Oxygen tanks were fully pressurized. At the clinic, the auditors reviewed inspection records of first aid equipment for the recertification period. The daily inspection forms included the storage temperature of the cyanide antidotes. Cyanide first aid equipment (cyanide antidotes and oxygen) in the process areas is inspected prior to cyanide mixing events. Cyanide antidote kits, oxygen bottles and emergency kits are inspected on a daily basis to verify that they are in good condition. Inspection records were available for review during the audit and were found 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 also 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, four paramedics and first aid personnel. 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 decide if transfer to the Santa Fe 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

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decide if transfer to the Santa Fe Clinic in 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 January 1<sup>st</sup> 2022 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 February 2021 a virtual training session on medical treatment of cyanide intoxication patients with participation of doctors, nurses and paramedics from the mine site as well as contractors and medical personnel from the Santa Fe Clinic.

**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 applies to all La Herradura facilities, including the DLP. 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. The ERP is complemented by approximately 18 procedures of emergency response, each of them addressing a specific emergency scenario. Cyanide scenarios considered include cyanide solution spills, solid cyanide spills and treatment of worker intoxicated with

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cyanide. A complete list of scenarios is included in section 11 of the ERP. 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 Code, 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 ponds and impoundments, power outages, uncontrolled seepage, and failure of tailing impoundments. Failure of cyanide treatment systems is not addressed because La Herradura does not have a cyanide destruct circuit. Scenarios related to catastrophic releases of hydrogen cyanide from storage or process facilities are included in each cyanide related procedures (Section 7 – Reaction plan) and also in procedure PO-BE-07 “Spill of cyanide, cyanide solution, tailings, and overflow of solution ponds”. Scenarios related to transportation accidents are covered by the ERP of Draslovka’s cyanide transporter Segutal. La Herradura does not assume responsibility for cyanide until it is transferred from the isotank into the dilution tank. In case of a transportation emergency (on-site or off-site), Segutal is responsible for the emergency response as well as for the remediation and clean-up of any cyanide release. La Herradura would provide necessary assistance in coordination with the transporter; this assistance may include emergency communications, medical aid, spill containment, and clean up. The ERP also includes in Section 6 the actions that La Herradura will take in case of a cyanide spill during transportation. Releases during unloading and mixing are addressed in procedure PO-PL-19 “Cyanide unloading from isotank”. Releases during fires and explosions are addressed in procedure PO-BE-4 “Fire at the plant”, and in the Contingency Plan. Scenarios related to pipe, valve and tank ruptures are addressed in procedure PO-PL-17 “Response to cyanide solution spills”. Scenarios related to overtopping of ponds and impoundments, such as the contingency pond in DLP2 are also addressed in procedure PO-PL-17 “Response to cyanide solution spills”. Scenarios related to power outages and pump failures are addressed in procedure PO-BE-07 “Spill of cyanide, cyanide solution, tailings, and overflow of solution ponds”. Scenarios of uncontrolled seepage are also addressed in procedure PO-PL-17 “Response to cyanide solution spills”. Scenarios related to failure of cyanide treatment, destruction or recovery systems do not apply to La Herradura as there are no cyanide destruction system at the operation. Scenarios related to failure of tailings impoundments are addressed in Section X, Analysis of Risks and Consequences, of the TSF Operation, Maintenance, and Surveillance Manual, which contains a Failure Mode and Effects Analysis (FMEA) with response actions for pump failure, power outage, valve failure, human error, and external events such as earthquakes and extreme storms.

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 Herradura for support if the spill occurred close to the mine site. La Herradura has a copy of the

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Segutal ERP, which was also reviewed by the auditors. Segutal ERP includes actions to respond to cyanide spills and intoxication. The ERP of La Herradura includes a section that details actions that the mine site would take in case of a cyanide spill during transportation.

The Emergency Response Plan, the Contingency Plan, and the emergency response and process plant procedures 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. 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 the ERP 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 process facilities, and makes provision for initial response, first aid, and spill reporting control and cleanup. Control and mitigation measures of a cyanide related incidents is covered under section 6 of the ERP and also in procedure PO-BE-07 "Spill of cyanide, cyanide solution, tailings, and overflow of solution ponds". Containment measures are covered under operational procedures for the DLP as well as in the ERP and supporting emergency response procedures. La Herradura incident reporting and investigation procedure will trigger the evaluation of root causes from an incident involving cyanide release, and will include preventive actions to avoid future events. The auditors verified that the ERP and supporting documents have been implemented and were in use for the recertification period by reviewing training records, completed checklist forms and by interview with the emergency brigade leader and process personnel.

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 cyanide emergency response planning. During training of the Emergency Brigade (EB), and after emergency mock drills, staff and the workforce has the 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

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transfer to the Santa Fe Clinic in Caborca is required to provide additional medical care. La Herradura organized in February 2021 a virtual training session on medical treatment of cyanide intoxication patients with participation of doctors, nurses and paramedics from the mine site as well as contractors and medical personnel from the Santa Fe Clinic. In April 2022, La Herradura also conducted training sessions with communities from the influence area of the mine that covered safety and environmental information, including information about emergency response, cyanide management and medical treatment. 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 any cyanide release. 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.

La Herradura has established communication channels through community engagement meetings and through their contractors, brigade members, and workforce who live in these communities, as documented in the Contingency Plan. Communities are not expected to play any response role in case of a cyanide incident other than staying away from the area of the incident and report any accidents to the authorities and the mine. 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. Mine personnel and contractors participated in mock drills conducted in the recertification period. The annual emergency drill program considered participation of outside responders in 2020, but the program was impacted by COVID-19 pandemic restrictions. All drills conducted in the recertification period considered only internal personnel. 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

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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.

La Herradura ERP does not designate any responsibilities to outside responders and communities. Communities are not expected to play any response role in case of a cyanide incident other than staying away from the area of the incident and report any accidents to the authorities and the mine. Regardless of that, 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 any cyanide release. These communities include Juan Alvarez, Sahuaro and Caborca. The mock drills completed at the mine for this recertification period have not involved external stakeholders due to COVID-19 pandemic restrictions. However, the ERP includes current contact information for notifying regulatory agencies, offsite medical facilities, the media, and other stakeholders. As stated in the ERP, the plan is reviewed and updated every two years. The most recent update was in January 2021.

7.3 Designate appropriate personnel and commit necessary equipment and resources for emergency response.

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

*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, 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 30 brigade members (7 from the emergency response area and 23 from different areas of the mine). There is a minimum of 10 brigade members per shift. Some of the brigade members are firemen from Caborca and Puerto Peñasco. The auditors reviewed the brigade list with information for its 30 team members and other responders (doctor, paramedics, and security) including complete name, contact number, and working area. There is 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 internal weekly training for EB members and also external training. The auditors reviewed training evidence for the recertification period. The schedule for internal training was impacted between April and August 2020 due to COVID-19 pandemic restrictions.

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The ERP 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 Contingency Plan. 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 the ERP. The list includes among others: clothing for fire intervention, equipment for rescue at heights, transportation and vehicle rescue, hazmat and support equipment. Portable HCN gas monitors are also included in the emergency response equipment. Emergency response equipment is checked on a monthly basis as indicated in the ERP. 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.

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. 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. Current contact information for fire, police, and hospitals is included in the ERP and supporting documents.

#### 7.4 Develop procedures for internal and external emergency notification and reporting.

- The operation is:  in full compliance  
 in substantial compliance  
 not in compliance with Standard of Practice 7.4

*Describe the basis for the Finding/Deficiencies Identified:*

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 the ERP. The contact list includes the names of internal first responders, security,

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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 and media through the Industrial Relations Superintendent, who is the authorized speaker for such events.

La Herradura has established a requirement to notify the ICMI (International Cyanide Management Institute) in case of a significant cyanide incident. Section 6 of the ERP includes the ICMI definition of a “significant cyanide incident” and states that communication to ICMI should occur within 24 hours of occurrence. The Emergency Response Leader would be in charge of such communication to ICMI. La Herradura has not had any significant cyanide related incident during this recertification period.

7.5 Incorporate remediation measures and monitoring elements into response plans and 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. These procedures also indicate 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 or in the tailings storage facility as indicated in procedure PO-PL-17 “Response to cyanide solution spills”. La Herradura confirmed that the operation only uses bottled water for drinking water supply and

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stated that well groundwater is brackish and undrinkable. By interview with environmental personnel, they confirmed there is no surface water at La Herradura and that the groundwater table is located at a depth of approximately 100 meters. There are no nearby communities with water supplies likely to be affected by releases at La Herradura.

The ERP does not specifically prohibits the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide that has been released into surface water. 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 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 any 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 facilities.

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 latest review was conducted in January 2021. The most recent Contingency Plan is dated March 2021. The emergency response procedures are dated 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. Previous and current versions of the ERP and supporting documents were reviewed to verify changes and updates conducted during the recertification period.

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La Herradura conducts mock emergency drills according to an annual emergency drills program. The auditors reviewed evidence of emergency response drills during the recertification 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 cyanide exposure for the recertification period with the participation of employees and contractors. The execution of the annual drill program was impacted by COVID-19 pandemic restrictions; as such only one drill related to cyanide was conducted per year in February 2020, February 2021, and February 2022. All drills conducted in the recertification period considered internal personnel only. 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. Verification was through review of records of mock cyanide drills performed during the recertification period and also by reviewing training plans and materials. Follow up documentation verifying that identified corrective actions have been closed was also reviewed.

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 updates of the major components of the ERP 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. The ERP includes a requirement to evaluate and revise the emergency response procedures, as necessary, following emergency mock drills.

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

### **Standards of Practice**

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

- The operation is:  in full compliance  
 in substantial compliance  
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*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 biannual 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 and employees have to take the courses within this timeframe. The auditors reviewed the 2019 annual training program, and the 2020-2021 and 2022-2023 biannual training programs for the DLP to verify implementation. In 2020, the training program was impacted by COVID-19 pandemic restrictions, 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 DLP 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. The biannual training programs (training matrix) for the recertification period were reviewed to validate training received by operators and supervisors interviewed during the field visit.

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 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. The auditors verified that La Herradura retains copies of training records by randomly requesting information of the workers interviewed during the field visit. Training is recorded on sign-in sheets with training records signed by both trainer and trainee.

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 in 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. This requirement was verified through review of a sample

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of records for the recertification period for the workers interviewed during the field visit. 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, DLP, MC-DLP, and tailings storage facility. 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 DLP and MC-DLP facilities, HCN monitoring systems, 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 if there is a change in the procedures. Workers are also instructed on the use of risk assessments and area inspections, which are carried out within work areas. The auditors reviewed these training materials and records, and confirmed by means of interviews with supervisors and workers in the DLP that this training was effective.

La Herradura has developed a comprehensive list of procedures for the DLP operation that define the steps required to complete a task that involves cyanide handling in a safe manner. The 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 DLP operations that involve the use 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 DLP. After that,

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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. The training sessions include written evaluations to verify understanding by the workers and define if they are qualified to conduct the task. Presentations, training materials, and tests were reviewed. All information was found to be complete.

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 (now Draslovka) provided training in cyanide management and emergency response to process, maintenance and emergency brigade personnel in 2019, two times in 2020, and in February and November 2021. This training included topics such as cyanide risks; health effects; cyanide controls; and emergency response; among others. This requirement was verified by discussion with the training department, medical staff and review of training records.

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 DLP facilities, 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. The auditors verified this by means of interviews with workers in the DLP. Records of the induction training and refreshers are maintained by the training department. The auditors inspected examples of these records and found them to be effectively maintained.

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. Draslovka). 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. Experienced supervisors

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provide re-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. Training records were reviewed for the recertification period. The auditors verified that La Herradura retains copies of training records by randomly requesting information of the workers interviewed during the field visit. Training is recorded on sign-in sheets with training records signed by both trainer and 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 (working cycles) 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 DLP, MC-DLP and tailings storage facility. 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. Samples records were available for review and found to be complete. The auditors verified this requirement by randomly checking records workers interviewed during the field visit. In all cases the auditors found evidence of training records and evaluations in compliance with this requirement.

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, including procedures to decontaminate a cyanide exposure victim. Response procedures are covered during hazard and awareness training and during cyanide refresher training. 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. As indicated in

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requirement 8.1, the auditors verified specific training records for randomly chosen workers involved in cyanide mixing, production and maintenance activities, and found La Herradura in compliance with this requirement.

La Herradura has an Emergency Brigade (EB) on site. The EB has a total of 30 brigade members (7 from the emergency response area and 23 from different areas of the mine). There is a minimum of 10 brigade members per shift. 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 for the recertification period showed that the EB actively participated in emergency drills including scenarios involving cyanide emergencies. Chemours (now Draslovka) provided training in cyanide management and emergency response to process, maintenance and emergency brigade personnel in 2019, two times in 2020, and in February and November 2021. 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 Draslovka on cyanide handling. Records of training for the EB were reviewed for the recertification period and were found to be complete. Verification included review of training records, mock drill reports and random interviews with the Emergency Response Lead, operators and maintenance personnel.

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. La Herradura organized in February 2021 a virtual training session on medical treatment of cyanide intoxication patients with participation of doctors, nurses and paramedics from the mine site as well as contractors and medical personnel from the Santa Fe Clinic. This training is conducted every two years, however, in 2020 was suspended due to COVID-19 pandemic restrictions and was rescheduled for 2021. 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.

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. Draslovka). Besides the annual cyanide refresher

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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. Personnel interviewed showed a good level of awareness of emergency response procedures in the event of a cyanide exposure or release. This was confirmed through review of training records for process personnel and emergency response team members

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 in electronic version stored in Microsoft Excel spreadsheet format. Training records were reviewed for the recertification period and were found to be complete. Training records identify the trainer, trainee, topics covered, date and sign off sheet. This requirement was verified through review of a sample of records for the recertification period of workers interviewed during the field visit. Operators and maintenance personnel in different areas were interviewed and demonstrated good awareness of what actions are to be taken in the event of cyanide release. As indicated in requirement 8.1, the auditors verified specific training records for randomly chosen workers involved in mixing, production and maintenance activities, and found La Herradura in compliance with this requirement. The effectiveness of the training was verified by the auditors on several interviews with employees and staff throughout the audit process.

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

### **Standards of Practice**

9.1 Promote dialogue with stakeholders regarding cyanide management and responsibly address identified concerns.

- 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

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contamination, which is one of the main points of concern of the surrounding communities in relation to cyanide. This program was suspended between March 2020 and September 2021 due to COVID-19 pandemic restrictions, and was fully resumed in April 2022. 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, including DLP facilities, and the use of cyanide are also presented to visitors in the mine tours. These videos are also presented to new employees arriving on site.

In April 2022, La Herradura conducted training sessions to communities from the influence area of the mine that covered safety and environmental information, including information about emergency response, cyanide management and medical treatment. 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 for the recertification period. Every two years, La Herradura conducts a perception study in the local communities to evaluate its social management programs and includes questions about contamination and management of hazardous materials. The most recent perception study, dated November 2021, included opinions about contamination from the mine, but does not specifically reference cyanide as an issue.

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 as Environmental world day, Water world day, environmental awareness 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, and in March 2022, organized a face to face meeting with communities and local authorities on environmental matters as part of the celebrations of Water World day. In addition, the Fresnillo plc corporate website at <http://www.fresnilloplc.com/corporate-responsibility/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. The auditors reviewed evidences of all these initiatives, including attendance lists of mine tours, complaints registers, presentations, flyers, webpage, awareness campaigns, perception studies and minutes of community meetings, among others.

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9.2 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 9.2

*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. Other means used are Power Point presentations that are provided in the mine tours that include an explanation of the production process, including the DLP, 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; 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; and 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.

Information is disseminated in a variety of forms, including verbal form in community meetings, face to face meetings, mine tours, videos, and radio and tv 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), visual form (i.e. process videos) 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

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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 for the recertification period. In case it occurs, the Environmental department will communicate it within 3 days of occurrence to PROFEPA, the Environmental agency. Information reported to PROFEPA is made available to the public through its website. No cyanide releases on or off the mine site resulting in significant adverse effects to the environment have occurred for the recertification period. In case it occurs, the Environmental department will communicate it to PROFEPA. No cyanide releases on or off the mine site requiring reporting under applicable regulations have occurred for the recertification period. 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 caused applicable limits for cyanide to be exceeded have occurred for the recertification period. In case it occurs, the Environmental department will communicate it to PROFEPA.

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