JUNE 2014

ICMC INITIAL CERTIFICATION
SUMMARY AUDIT REPORT

Cerro de San Pedro Mine
San Luis Potosi, Mexico

Submitted To: International Cyanide Management Institute
1400 I Street, NW, Suite 550
Washington, DC 20005 USA

Minera San Xavier, SA de CV
Camino a Cerro de San Pedro #200
Col. La Zapatilla
Cerro de San Pedro
San Luis Potosi, Mexico CP 78440

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June 3, 2014

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ICMC INITIAL CERTIFICATION SUMMARY REPORT

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1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Mine: Cerro de San Pedro Mine
Name of Mine Owner: New Gold Inc.
Name of Mine Operator: Minera San Xavier, SA de CV
Name of Responsible Manager: Angel F. Chung
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2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

2.1 Mine Location

The Cerro de San Pedro Mine is operated by Minera San Xavier, SA de CV (MSX), a subsidiary of Canadian company New Gold Inc. (New Gold). The Cerro de San Pedro Mine is located approximately 20 kilometers northeast of the city of San Luis Potosi in Mexico (see area highlighted in red in Figure 1). Smaller nearby villages with their approximate population in parentheses include:

- Cuesta de Campa (60)
- Monte Caldera (200)
- Portezuelo (1,000)
- Cerro de San Pedro (100)
- La Nueva Zapatilla (100)

![Regional Location Map](image)

Figure 1: Regional Location Map
2.2 Background
The Cerro de San Pedro Mine is an open pit mine that commenced commercial production in mid-2007 and is currently mining at full mine plan production rates of 63,000 tonnes per day. Their annual precious metal production was estimated to be approximately 103,000 ounces of gold and 1.3 million ounces of silver in 2013. The proven and probable mineral reserves at Cerro de San Pedro were found to reach 1.4 million ounces of gold and 52 million ounces of silver.

The run-of-mine mineral is sent directly to the heap leach pad, where the ore is leached with a cyanide solution by drip irrigation. Gold and silver recovery is achieved through a typical heap leaching process using dilute cyanide solution to recover metal from the ore on the heaps. The metal enriched solution is transported to the Merrill Crowe processing facility where the gold and silver are extracted from the solution using a zinc precipitation process. No carbon in leach is required due to the composition of the ore (see Figure 2). The resulting precious metal precipitant collected in the filter presses is refined on-site and poured in to gold/silver doré bars.

Figure 2: Process Flow Diagram

MSX receives solid sodium cyanide packaged in flobins, wooden boxes, and ecosacks from E I du Pont de Nemours (DuPont) who manufacture it at their facility in Memphis, Tennessee. The cyanide is transported by both rail and road. Segutal is the local transporter in Mexico, subcontracted by DuPont to pick up the containers at their San Luis Potosi warehouse and haul them to the mine.

The cyanide facilities consist of two cyanide mixing tanks, one cyanide storage tank, a pre-coat tank to the zinc cone, two barren tanks, four booster station tanks, clarifiers, a deoxygenation tower, a zinc cone,
filter presses, leach pad facilities, one pregnant pond, and one storm pond. The mixing tank, storage
tank, barren tank, and pre-coat tank for the zinc cone are located within secondary containment
consisting of reinforced concrete walls and floor. Each secondary containment drains to a main sump.
From this sump, solutions report to the sump of the storm pond. The remainder of the tanks are located
within the footprint of the heap leach pad. The tanks are constructed of stainless steel and pipelines are
constructed with stainless steel, carbon steel, and HDPE. The plant, including all areas with tanks, is
lined with reinforced concrete. A storm pond, located adjacent to the pregnant pond, is available for
containment of cyanide solutions during heavy precipitation periods.

The pipelines between the leach pad and plant are contained within a geomembrane-lined channel.
There are four booster pump stations located within the pad limits, each with a metal tank and pumps
installed in concrete containment. The pregnant pond is double-lined with geomembrane and is equipped
with a leak detection, collection, and recovery system. The storm pond is single-lined with geomembrane
over a low permeability soil. The storm pond sump is double-lined with geomembrane and is equipped
with a leak detection, collection, and recovery system. The heap leach pad was constructed with a
composite liner of compacted clay and geomembrane. The mine has one heap leach pad that has been
sub-divided into 3 phases and 10 cells. The heap leach pad has run-on diversion ditches on the
upgradient sides.
3.0 SUMMARY AUDIT REPORT

Auditors Findings

☐ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

The International Cyanide Management Code

Cerro de San Pedro Mine is: ☑ in substantial compliance with

No significant cyanide incidents or cyanide exposure incidents were noted as occurring during the audit period.

Audit Company: Golder Associates, Inc.
Audit Team Leader: Kent Johnejack, Lead Auditor and Mining Technical Specialist
Email: kjohnejack@golder.com

Name of Other Auditors

<table>
<thead>
<tr>
<th>Name, Position</th>
<th>Signature</th>
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</thead>
<tbody>
<tr>
<td>Bruno Pizzorni, Auditor¹</td>
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¹ Mr. Bruno Pizzorni, a non-ICMI certified auditor at the time of the site visit in October 2013, assisted under the direct supervision of Mr. Kent Johnejack. Mr. Johnejack was involved in, and responsible for, preparation of all responses to the audit questions.

Dates of Audit

The initial certification audit was undertaken in two site visits:

- Four days between October 7 and 10, 2013 (Mr. Kent Johnejack and Mr. Bruno Pizzorni)
- Two days between January 7 and 8, 2014 (Mr. Kent Johnejack)

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 I meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Cyanide Gold Mine Operations and using standard and accepted practices for health, safety and environmental audits.

Cerro de San Pedro Mine
Name of Facility
June 3, 2014
Signature of Lead Auditor

Cerro de San Pedro Mine
Name of Facility
June 3, 2014
Signature of Lead Auditor

Golder Associates
PRINCIPLE 1 – PRODUCTION
Encourage Responsible Cyanide Manufacturing by Purchasing from Manufacturers that Operate in a Safe and Environmentally Protective Manner

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

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

Summarize the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 1.1, requiring the operation purchase cyanide from manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide and to prevent releases of cyanide to the environment.

MSX purchases cyanide from E I DuPont de Nemours (DuPont) who manufactures it at their facility in Memphis, Tennessee, USA. The 2013 contract between DuPont and MSX specifically identifies the Code certification requirements as a provision in Item 12 of the contract. The DuPont facility in Tennessee was first certified as Code-compliant by Management Systems Solutions Inc. on June 2006, recertified by them in December 2009, and recertified in April 2013 by the CN Auditing Group. The auditors only observed DuPont product in the preparation warehouse and the reagent warehouse.
PRINCIPLE 2 – TRANSPORTATION
Protect Communities and the Environment during Cyanide Transport

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

- in full compliance with

The operation is

☐ in substantial compliance with Standard of Practice 2.1

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 2.1, requiring that the operation establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors, and transporters.

Item 7 of the 2013 contract between DuPont and MSX establishes that MSX does not take responsibility for the cyanide until it is received in the warehouse at Cerro de San Pedro Mine. Item 12(b) of the contract clearly establishes that Du Pont and its transporters, distributors, and contractor transporters are responsible for all aspects of packaging, labelling, storage en route, route selection, transport, unloading, safety, training, security, and emergency response until the time of delivery. Item 12(a) of the 2013 contract between MSX and DuPont establishes that the Code requirements extend to all of DuPont's transporters, distributors, and contractor transporters.

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

- in full compliance with

The operation is

☐ in substantial compliance with Standard of Practice 2.2

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 2.2, requiring that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

MSX uses a Code-certified transporter via its 2013 contract with DuPont, who is responsible for transport up to delivery at the mine warehouse. Item 12(a) of the 2013 contract between MSX and DuPont establishes that the Code requirements extend to all of DuPont’s transporters, distributors, and contractor transporters.
transporters. All parts of the supply chain from DuPont’s manufacturing facility in Tennessee to the mine have been certified under the Code, as verified by the audit reports listed for the DuPont US/Canada supply chain, the Mexico supply chain, and the San Luis Potosi warehouse available on the ICMI website for the 2010 and 2013 audit cycles. The auditors reviewed purchase orders, bills of lading, and invoices for cyanide shipments from June to September 2013 to verify that Transportes Especializados Segutal, SA de CV was the transporter to the site from the DuPont San Luis Potosi warehouse.
PRINCIPLE 3 – HANDLING AND STORAGE
Protect Workers and the Environment during Cyanide Handling and Storage

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

☑ in full compliance with

☐ in substantial compliance with  Standard of Practice 3.1

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Handling and Storage Practice 3.1, requiring that cyanide handling and storage facilities are designed and constructed consistent with sound, accepted engineering practices, quality assurance/quality control (QA/QC) procedures, spill prevention, and spill containment measures.

MSX has a reagent storage warehouse for storage of large quantities of solid cyanide and a preparation warehouse for storage of a small quantity of solid cyanide and mixing of the solid cyanide. MSX provided a combination of design information and recent evaluations by independent engineers to confirm that these warehouses are suitable for their intended use.

The preparation warehouse and the reagent storage warehouse are located away from people and surface water. The nearest village, La Nueva Zapatilla, is located approximately 400 meters downhill of and to the southwest of the warehouses. Surface water occurrence is ephemeral, occurring as short-duration runoff. The village of Nueva Zapatilla has a seasonal surface water pond that captures ephemeral runoff from a watercourse named the Cuesta de Campa Arroyo. However, runoff from the warehouses reports to the lined process ponds or a borrow area downstream of the reagent storage warehouse. Both warehouses are located away from offices and locations where staff may congregate. Both warehouses are equipped with fixed HCN monitors with audible and visual alarms. MSX has a security guard checkpoint at the mine entrance, as well as a guard shack near the reagent warehouse. There is a chain link fence around the pad and plant area and a separate locked fence around the reagent warehouse. Both warehouses are kept locked and only authorized staff have access to them.

MSX receives only solid cyanide; liquid cyanide is not delivered to the site. Nonetheless, the solid cyanide is unloaded on concrete surfaces and is transferred from the reagent warehouse to the...
preparation warehouse over asphalt surfaces to reduce the potential for impacts to soil or water in the event of a spill.

MSX has two mixing tanks and one storage tank for reagent grade cyanide inside the preparation warehouse. All three tanks have level sensors with visual and audible alarms that sound when 92 percent capacity is reached. The alarms also trigger automatic shutoff valves to prevent overflows. The level sensors in the mixing tanks are maintained monthly, while the level sensor in the storage tank is maintained quarterly. The auditors reviewed recent maintenance records to confirm maintenance was performed.

The preparation warehouse is built with a concrete floor underlain by a geomembrane and compacted subgrade. The floor of the preparation warehouse serves as secondary containment for the two mixing tanks and the storage tank. The floor drains to an interior sump to send washdown water and/or releases to the sump of the storm pond. The auditors reviewed construction photographs that showed the geomembrane underliner, the reinforced concrete floor, and the reinforced concrete tank bases. The auditors observed the concrete floor and tank bases to be in good condition at the time of the site visits with sealed joints and a recent coat of epoxy. Therefore, MSX has installed these tanks and their secondary containment with measures to prevent seepage to the subsurface.

MSX receives solid cyanide in wooden boxes, ecosacks, and flobins at the reagent warehouse, but stores a few containers for daily use at the preparation warehouse. Both warehouses have adequate ventilation via roof vents, louvered wall panels, and screened areas over the entry ramps. Both warehouses are located on raised pads to prevent entry of run-on and both are walled and roofed to prevent entry of precipitation. Both warehouses are within the fenced mine area with controlled access at the gate and continuous security. Both warehouses are kept locked with entrance only by authorized personnel. In addition, the reagent warehouse is within its own fenced and locked enclosure. MSX does not allow storage of incompatible materials in either warehouse, as confirmed by inspection, signage, and procedures. The only incompatible material in the vicinity of the warehouses is anti-scalant (an acid), but it is stored in its own tank well away from the warehouses and within its own secondary containment. The auditors observed that its flow path would not commingle with the flow paths from the warehouses in the event of release.
Standard of Practice 3.2: Operate unloading storage and mixing facilities using inspections, preventative maintenance, and contingency plans to prevent or contain releases and control and respond to worker exposures.

- in full compliance with
- in substantial compliance with
- not in compliance with

The operation is

Summarize the basis for this Finding/Deficiencies Identified:
The operation is in full compliance with Handling and Storage Practice 3.2 requiring that cyanide handling and storage facilities are operated using inspections, preventative maintenance, and contingency plans to prevent or contain releases and control and respond to worker exposures.

MSX prevents empty cyanide containers from being used for other purposes. Flobins are returned to DuPont. Wooden components from the wooden boxes and ecosacks (i.e., wood sides from the boxes, interior protective cardboard from the boxes and ecosacks, and pallets) are segregated as special wastes and stored in a temporary accumulation area until they are shipped by a certified transporter to a landfill permitted for special wastes. Plastic components from the wooden boxes and ecosacks (i.e., interior and exterior plastic bags, respectively) are triple-rinsed and segregated as hazardous wastes and stored in a temporary accumulation area until they are shipped by a certified transporter to a landfill permitted for hazardous wastes. Both temporary accumulation areas are fenced and locked.

MSX mixes cyanide from three to five times daily. Each mixing event consists of four containers. MSX has developed and implemented plans or procedures to prevent exposures and releases during cyanide unloading and mixing activities. The written procedure for preparation and mixing of cyanide solutions describes the steps for safe handling of the containers during mixing. These steps include checking HCN levels, partially filling the tank with fresh water, adding sodium hydroxide to reach the required pH of 10.5, emptying four containers of solid cyanide into the top of mixing tank, finishing filling the tank with fresh water, mixing the solution for two hours, transferring to the storage tank for distribution, and checking for spills and residues. This procedure also describes the potential risks, the required PPE, and the required equipment and tools. Finally, this procedure requires that a mixing event be undertaken with at least two operators present, with the second operator acting as an observer and documenter with the checklist. The auditors observed a mixing event and reviewed checklists to confirm use of the procedure.

The written procedure for cyanide reception, unloading, and warehousing, describes the safe handling of the cyanide containers from the delivery truck to the reagent warehouse, as well as the transfer from the reagent warehouse to the preparation warehouse. The operators are certified for forklift operation.
auditors observed and reviewed checklists for an unloading event and a transfer from the reagent warehouse to the preparation warehouse to confirm compliance. This procedure also specifies no more than two-high stacking of cyanide. The auditors observed that MSX follows this requirement in both the reagent warehouse and the preparation warehouse.
PRINCIPLE 4 – OPERATIONS
Manage Cyanide Process Solutions and Waste Streams to Protect Human Health and the Environment

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

☒ in full compliance with

☐ in substantial compliance with Standard of Practice 4.1

☒ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

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

The MSX cyanide facilities (i.e., those with WAD cyanide greater than 0.5 ppm) are:

- The heap leach pad consisting of 3 phases with 10 cells
- The pregnant pond and storm pond
- The preparation warehouse, including two mixing tanks and a storage tank
- Reagent storage warehouse
- Process plant (Merrill Crowe)
- Four booster pump/tank stations
- Two barren tanks
- Associated pipelines, pumps, valves, and appurtenances

MSX has developed three high-level management systems relevant to cyanide management: ISO-14001 Environmental Management Certification, ISO-9001 Quality Certification for Gold/Silver Beneficiation, and OHSAS 18001 Health and Safety Certification. In addition to those high-level programs, MSX has developed the following detailed plans and programs: SAP database for managing maintenance, program for environmental monitoring, emergency response plan, initial and expansion design reports and drawings, and a set of more than 25 standard operating procedures and work instructions for safe operation of the cyanide facilities. These plans and programs identify the design criteria, assumptions, parameters, and regulatory requirements to prevent and control cyanide releases and exposures.

MSX has prepared a written procedure for change management that applies to physical and operational changes. The procedure is accompanied by a form for sign-off by the finance, engineering,
environmental, safety, and quality departments, as well as the general manager. MSX provided four signed examples to verify compliance.

MSX has prepared an Emergency Response Plan that addresses contingency procedures. Appendix 13 to the Emergency Response Plan contains details regarding scenarios and responses specific to cyanide contingencies for spills of solid and liquid cyanide: elevated HCN concentrations, pond overtopping, detection of cyanide in leak detection systems, seepage from the pad, detection of cyanide in groundwater and surface water, and temporary closure of cyanide facilities.

MSX process and environmental staff inspect the cyanide facilities at frequencies that vary from every occurrence to weekly. MSX maintenance staff inspect cyanide equipment on a 1 to 6 month basis depending on the type of equipment. Wildlife inspections take place daily at the pad and ponds. MSX uses forms to document these regular inspections.

MSX inspects the unloading, storage, mixing, and process areas and documents those inspections with forms. Tanks, secondary containments, leak detection for the pregnant pond, pipelines, pumps, sumps, and valves are inspected by process staff on a weekly basis. MSX commissioned an external consultant in 2009 and 2012 to complete ultrasound testing and liquid penetration testing on selected process tanks. The tanks that were tested were found suitable for their intended use.

MSX documents inspections, including the date of the inspection, the name of the inspector, items inspected, observations, and corrective actions. Corrective actions are tracked via the SAP program for maintenance. The auditors reviewed examples of completed inspection forms to verify compliance.

MSX has implemented a maintenance program via the SAP software that includes both proactive (scheduled) maintenance and reactive (unscheduled) maintenance. This program is described in a written procedure for maintenance coordination. MSX classifies maintenance as either electrical (includes instrumentation) or as mechanical. The auditors reviewed closed work orders for corrective maintenance and preventative maintenance. MSX also has redundant (standby) units for critical equipment and spare parts in the warehouse and laydown areas.

MSX has eight backup generators with a total capacity of 7.66 MW to provide full power for the plant, pad, ponds, and pump stations. The auditors observed each generator, as well as the records for the regular startup tests (every 15 days) and the regular preventative maintenance (every 3 to 6 months).
Standard of Practice 4.2: Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

☒ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

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

The operation is in full compliance with Standard of Practice 4.2, requiring that the operation limit the use of cyanide to that optimal for economic recovery of gold so that the waste tailings material has as low a cyanide concentration as practical.

Not applicable because MSX does not have a mill or generate tailings.

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

☒ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

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

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

An initial water balance was prepared in 2006 to size the process ponds for design. This initial water balance is comprehensive in that it includes full build out to all three phases of the pad, the pregnant pond, and the storm pond. It includes the key input factors such as pumping (application) rates, ore moisture content and water consumption, precipitation rates, freeboard, and assumptions regarding backup power. The initial water balance is probabilistic in that it includes a design storm of the 100-year 24-hour event (i.e., 100 mm). Uncertainty was evaluated by increasing the design storm by 50 percent.

MSX has also developed an operational Excel-based water balance that is both comprehensive and probabilistic. The water balance is comprehensive in that it contains the applicable facilities as well as the appropriate factors. The water balance includes the pad, pregnant pond, storm pond, and runoff and washdown water from the plant area that report to the ponds. The factors include the irrigation rate and actual site precipitation. The factors do not include evaporation because it is conservative with respect to pond overtopping not to do so. The factors also do not include run-on to the pad (all run-on is diverted) nor a power outage (full generator backup is provided for the plant and all pump stations). Freezing and
thawing is inapplicable for central Mexico. The water balance is probabilistic in that MSX can enter storms of any magnitude and duration to predict their effects on water levels in the process ponds. The auditors reviewed the water balance spreadsheet for January through December 2013 to confirm compliance. The auditors also observed a test of the operational water balance to verify that it could reasonably predict the effects of two back-to-back 100-year 24-hour storms on water levels in the process ponds.

MSX has developed a written procedure that links the daily operational water balance to the field activities necessary for its implementation. MSX completes weekly pond inspections that document the water levels in the ponds based on elevations painted in yellow on the sides of the ponds. MSX also completes weekly inspections of the upgradient run-on diversions. The auditors reviewed completed examples of both forms to confirm compliance.

MSX has designed the pond system with a volume sufficient for 1.5 times the design storm, according to the initial design water balance prepared by Vector Engineering Inc. The pregnant pond was designed with a gravity overflow weir to the storm pond. The storm pond was designed with 1 m of freeboard. MSX prepares monthly graphs of the water levels in the storm pond. The graphs for January to December 2013 showed the storm pond only received flow from the pregnant pond in September 2013 and that the water level in the storm pond stayed well below the minimum freeboard.

MSX measures precipitation at its onsite meteorological station near the process plant and enters the data into the operational water balance. The auditors reviewed files of the precipitation data, as well as its use in the water balance. MSX considers the 6-year period of record for precipitation data to be too short for a meaningful comparison of the site data to the initial design data; the auditors concur with this statement.

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

☐ in full compliance with

☒ in substantial compliance with Standard of Practice 4.4

☐ not in compliance with

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

The operation is in substantial compliance with Standard of Practice 4.4, requiring the operation implement measures to protect birds, other wildlife, and livestock from adverse effects of cyanide process solutions.
The pregnant pond and the storm pond are the only open waters at the operation. MSX provided analytical data for the pregnant pond that showed concentrations of WAD cyanide were greater than 50 ppm. MSX also provided analytical data for the storm pond that showed concentrations of WAD cyanide were greater than 50 ppm. These elevated concentrations were due to the discharge of miscellaneous process water from the plant and the preparation warehouse to the storm pond. In January 2014, MSX:

- Installed posts and netting over the pregnant pond to restrict wildlife access.
- Rerouted the miscellaneous process water directly back to the process circuit, or directly to the storm pond sump, thereby keeping the floor of the storm pond dry most of the time.
- Installed netting over the storm pond sump to restrict wildlife access.
- Installed a treatment system for occasional overflows from the pregnant pond to the storm pond to reduce the concentration of WAD cyanide to less than 50 ppm (in the event that an overflow occurs).

The auditors consider MSX to be substantially compliant under this Standard of Practice because insufficient data were available to verify that the floor of the storm pond remains dry under normal conditions, and that water in the storm pond has been treated when there are occasional overflows from the pregnant pond to the storm pond. A corrective action plan was prepared to bring the operation into full compliance. The auditors’ conclusion was based on the consideration of good-faith effort, the corrective nature of the deficiency, and the risk to workers and/or the environment, as discussed below:

- MSX installed the treatment system for the storm pond in January 2014, developed procedures for its operation, and trained staff in its operation, thus exhibiting good faith.
- The nature of the corrective action is simply to provide data that the floor of the storm pond remains dry or that when occasional overflows do occur, the treated water has concentrations of WAD cyanide less than 50 ppm. These data can be provided in 6 months, which is less than the 1 year limit specified by the ICMI.
- The lack of these data for the storm pond does not pose a substantial risk to workers or the environment given that MSX has provided hazing measures and conducts daily inspections.

MSX restricts wildlife and livestock access in additional ways. Fencing is installed and in good condition around the mine property and separately around the process ponds. Process solutions are conveyed in pipes rather than in open channels and the principal secondary containment channel for the pipes has a gravel bed to prevent surface exposure of fugitive solutions. Hazing measures at the process ponds include sonic devices, propane cannons, scare-owls, and wirelines with flagging. MSX has also installed 20 guzzlers (“bebederos”) around the pad and process ponds to provide alternative drinking water sources for wildlife, thereby reducing the attraction to process waters.
MSX reported two wildlife mortalities (i.e., a fox and a hawk) due to cyanosis between April and December 2013. The auditors consider that two mortalities in 6 months are isolated cases rather than a continuous or significant level of mortality.

MSX has developed a written procedure to manage ponding on the surface of the heap leach pad. The process and environmental staff inspect for ponding daily. The auditors observed locations where netting was installed over puddles in accordance with the written procedure. MSX applies solution by drip irrigation, thereby eliminating the possibility of overspray.

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

- [x] in full compliance with

**The operation is**

- [ ] in substantial compliance with
- [ ] not in compliance with

**Standard of Practice 4.5**

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

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

MSX does not have a direct discharge to surface water. MSX has no known indirect discharges to surface water. However, there are two ephemeral watercourses passing within approximately 100 meters of the cyanide facilities. Both report to a temporary water body (“bordo”) that may seasonally contain water. To confirm the lack of indirect discharges, MSX samples these “bordos” every 6 months if water is present. The results for 2013 show the “bordos” either dry or with free cyanide levels an order of magnitude less than the 0.022 ppm level specified in the Code. MSX is not engaged in remedial activity because the concentrations in surface water, when present, are below protective levels.
Standard of Practice 4.6: Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.

☑ in full compliance with

☒ in substantial compliance with

☒ not in compliance with

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

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

MSX has implemented measures to protect groundwater. The heap leach pad and pipeline secondary containment channel are constructed with a composite liner of compacted clay and geomembrane. The pregnant pond is double-lined with geomembrane and is equipped with a leak detection, collection, and recovery system. The storm pond is constructed with a single geomembrane liner. However, the storm pond sump is double-lined with geomembrane and is equipped with a leak detection, collection, and recovery system. The plant and warehouses are constructed with concrete floors. Barren tank 1 also is installed on a concrete floor, whereas barren tank 2 and the four booster station tanks are within the limits of the lined heap leach pad.

MSX staff stated that groundwater is used for the following beneficial uses in the mine area: mining, agriculture, industry, and human consumption. MSX staff referred to the Mexican federal regulation (NOM 127 SSA1 [1994]) for total cyanide in groundwater for human consumption at the point of use as the most stringent (relative to the other beneficial uses). The numerical value in that regulation is 0.07 ppm total cyanide.

MSX monitors groundwater quarterly for compliance purposes at the point of use in six groundwater production wells downgradient of the site. The beneficial uses vary by well and include industrial, agricultural, and human consumption uses. MSX showed the auditors analytical results for the four quarterly sampling events in 2013. All results were non-detect for all species of cyanide for the six wells.

MSX does not have a mill or generate tailings.

MSX is not engaged in remedial activity to prevent further degradation or restore beneficial use of groundwater.
Standard of Practice 4.7: Provide spill prevention or containment measures for process tanks and pipelines.

☑ in full compliance with

The operation is
☐ in substantial compliance with
☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:
The operation is in full compliance with Standard of Practice 4.7 requiring that the operation provide spill prevention or containment measures for process tanks and pipelines.

MSX has provided secondary containment for all cyanide-related tanks and vessels. All tanks were confirmed to be installed on solid concrete bases (rather than ring beams). MSX has sized the secondary containments in the preparation warehouse and the plant for more than 110 percent of the largest tank volume, but in any case, all of the secondary containments for the preparation warehouse, plant, and booster station tanks are designed for gravity flow-through to tertiary containment provided by the heap leach pad or the process ponds. The auditors observed all of the secondary containments to be in good condition.

MSX has designed all of their secondary containments report to tertiary containment, thereby precluding the need for a written procedure for discharge to the environment. All secondary containments ultimately report to the heap leach pad or the process ponds.

MSX has provided secondary containment measures for all cyanide-related pipelines. Where the pipelines are not within the plant or the heap leach pad, these measures consist of geomembrane wrapping and geomembrane-lined channels. The auditors observed the pipeline secondary containments to be in good condition.

There are no perennial watercourses or permanent surface water bodies in the vicinity of the mine due to the generally arid climate in central Mexico. MSX does not have any cyanide-related pipelines that run across or adjacent to surface water.

As observed during the site visits, MSX has constructed the cyanide-related tanks and pipelines of stainless steel, mild steel, or HDPE – all of which are materials compatible with high pH and cyanide.
Standard of Practice 4.8: Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

☑️ in full compliance with

☐ in substantial compliance with ☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.8 requiring that operations implement QA/QC procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

MSX has implemented Construction Quality Assurance (CQA) programs during construction for most of the cyanide facilities. For those original facilities where evidence of a CQA program during construction could not be found in the files, MSX commissioned an independent professional engineer to provide an alternative demonstration. MSX provided evidence of a CQA program during construction for the heap leach pad; process ponds; booster stations 2, 3, and 4; barren tank 2; the replacement barren tank 1; upgrades to the storm pond sump; and the reagent storage warehouse. MSX provided alternative evidence for the preparation warehouse; the process plant; booster station 1; and the original barren tank 1. All cyanide facilities have evidence of proper construction whether by CQA programs or retroactive inspection by a qualified engineer. The CQA and inspection documents contain appropriate information for earthworks, concrete, geomembrane, piping, welding, and tank construction.

The CQA and inspection documents were prepared by reputable consultants and signed by their respective civil and/or geotechnical engineers. The CQA reports contained conclusions stating that the facilities were constructed in accordance with the designs and specifications, while the visual inspection reports contained conclusions that the facilities were in good condition and suitable for their intended purpose.

MSX has retained the CQA documents and inspection reports. The auditors observed the original hard copies and/or pdf files of the documents to verify compliance.
Standard of Practice 4.9: Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and groundwater quality.

☑ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

The operation is

Summarize the basis for this Finding/Deficiencies Identified:

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

MSX has developed a written program for environmental monitoring called the General Environmental Monitoring Program. The document covers air, surface water, groundwater, and soil monitoring. MSX has a separate written procedure for monitoring flora and fauna. The environmental monitoring procedures were prepared by two MSX staff with doctorates in chemical engineering.

MSX contracts with certified laboratories for external analysis of cyanide. The auditors reviewed a recent laboratory sampling package to verify the existence of an event-specific sampling and analysis plan that details the staffing, responsibilities, equipment, field procedures, containerization, preservation, handling, shipping, and chain-of-custody documentation. This package has a map showing the sampling locations and specifies analysis of total, WAD, and free cyanide. This package also contains two field forms for documenting sampling conditions, field parameters, and sampling procedures.

MSX monitors groundwater in six groundwater wells downgradient of the site. These wells are production wells that are also used as compliance points for monitoring. MSX monitors groundwater in two wells adjacent to the storm pond and the heap leach pad, respectively. MSX also monitors shallow and/or perched groundwater in 10 monitoring wells (PSS-01 to -10) around the perimeter of the heap leach pad. There are two ephemeral watercourses in the vicinity of the cyanide facilities that report to temporary watering holes (“bordos”) that may seasonally contain water. MSX monitors groundwater quarterly, shallow groundwater monthly, and “bordos” every 6 months if water is present. These frequencies are adequate to characterize the media being monitored and to identify changes in a timely manner.

MSX has developed a written procedure for rescue, relocation, and monitoring of wildlife. Staff from the MSX Environment Department inspect for wildlife at the heap leach pad and ponds on a daily basis and document the findings on two field forms. Should mortality be identified, MSX investigates it and prepares an environmental accident report, as evidenced by the two reports provided for 2013.
PRINCIPLE 5 – DECOMMISSIONING
Protect Communities and the Environment from Cyanide through Development and Implementation of Decommissioning Plans for Cyanide Facilities.

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

☑️ in full compliance with

The operation is ☐ in substantial compliance with Standard of Practice 5.1

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

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

MSX has commissioned consultants to prepare two closure plans that include decommissioning of cyanide facilities: (1) May 2012 closure plan by Behre Dolbear & Company Inc., and (2) April 2013 updated closure plan by Terra Quaestum SC. Both plans contain the major cyanide facilities such as the pad, plant, ponds, pipelines, preparation warehouse, and pumping stations. Both plans include cyanide-related decommissioning activities for use of all residual cyanide, reduction in the volume of process solution by enhanced evaporation, natural degradation of cyanide in process solution over a 2-year period, removal of sludge/sediment from the ponds for disposal on the pad, rinsing of the pond liners with disposal of the rinse water on the pad, and demolition of the plant, ponds, pipelines, warehouses, and other cyanide-related infrastructure. MSX has also developed an operational work instruction for decontamination of cyanide-related equipment that would be used during decommissioning activities. These two closure plans for 2012 and 2013 are evidence of ongoing updating.

The May 2012 closure plan includes a series of Gantt charts showing the implementation schedule for all mine closure activities, including the pad, plant, ponds, pipelines and other cyanide-related infrastructure. These Gantt charts are based on projected dates through the end of mining and closure (2015 to 2022).
Standard of Practice 5.2: Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

☑ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

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

MSX has commissioned consultants to prepare two closure plans that include decommissioning of cyanide facilities: (1) May 2012 closure plan by Behre Dolbear & Company Inc., and (2) April 2013 updated closure plan by Terra Quaestum SC. The 2013 plan updates costs for the pit and non-ore stockpile expansion; the costs for the cyanide facilities were unchanged. Both closure plans used local contractor quotes as the third-party basis for costing. The estimated costs for closure of the cyanide facilities allow an approximate separation of decommissioning costs from the demolition, closure, and reclamation costs. The approximate costs for the cyanide-related decommissioning activities through 2018 are $9.3M USD. The 2012 and 2013 cost estimates are evidence of ongoing updating.

MSX has established a financial mechanism via an irrevocable standby letter of credit issued by Scotiabank and approved in August 2012 by SEMARNAT, a Mexico federal agency. This mechanism is valid through August 2014 and MSX plans to renew it. The letter of credit amount of approximately $18.4M USD is roughly double the estimated decommissioning costs of $9.3M USD for the cyanide facilities.
PRINCIPLE 6 – WORKER SAFETY

Protect Workers’ Health and Safety from Exposure to Cyanide

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

☑ in full compliance with

☐ in substantial compliance with Standard of Practice 6.1

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 6.1 requiring that the site identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce, and control them.

MSX has developed procedures describing how cyanide-related tasks should be conducted to control worker exposure. Potential cyanide exposure scenarios have been identified and the measures to reduce and control them are in place. The work procedures require the use of PPE and address pre-work inspections. MSX has developed a procedure to review process changes and modifications for their potential impacts on worker health and safety, and incorporate the necessary worker protection measures. The change management procedure requires sign-off by environmental and safety managers. MSX considers the worker input in developing a safety work procedures via direct communication, daily 5-minute meetings, weekly meetings, and H&S committee meetings.

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

☑ in full compliance with

☐ in substantial compliance with Standard of Practice 6.2

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 6.2 requiring that the site operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

MSX operates and monitors cyanide facilities to protect worker health and safety. The operation has determined that 10.5 is the appropriate pH for limiting the evolution of HCN gas during mixing and production activities. The operation uses fixed and personal monitoring devices to confirm that controls are adequate to limit worker exposure to HCN gas. Fixed HCN monitors with audible and visible alarms...
are located at the cyanide mix tank in the preparation warehouse, at the zinc addition cone in the plant, and at the reagent warehouse. MSX also has 20 portable HCN monitors that workers wear when they have the potential to be exposed to cyanide for more than 8 hours. The fixed and portable HCN monitors are set to alarm at 4.0 ppm cyanide concentration (preventive) and at 10 ppm (evacuation). The fixed and portable HCN monitors are calibrated on a regular basis and records are kept for at least a year. Areas where workers may be exposed to cyanide are identified in the Emergency Response Plan. Warning signs are placed where cyanide is used, showers and low pressure eye wash stations properly function and there are fire extinguishers in place. Emergency equipment is maintained and, inspected periodically. Equipment containing cyanide is identified with signs indicating the contents and direction of flow. MSDS and first aid procedures are available in Spanish where cyanide is managed. MSX has prepared a procedure for investigation of all types of health, safety, and environmental incidents. No cyanide exposure or intoxication incidents have occurred since the mine started operations. However, MSX provided two cyanide-related incident reports (i.e., physical injury and spill) as evidence that an intoxication incident would be investigated were it to occur.

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

☑ in full compliance with

☐ in substantial compliance with ☐ not in compliance with

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

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

Cyanide antidote kits are available outside the cyanide unloading, storage and mixing area, the Merrill Crowe Plant, the medical services and in the laboratory area. The amyl nitrite is stored at the manufacturer’s recommended temperature. Temperature is checked daily. The antidote is replaced as specified by the manufacturer’s expiration date. Cyanide first aid equipment is inspected monthly by the on-site paramedics. Inspections are documented. MSX has developed written emergency response plans for cyanide exposures. They have on-site medical center staffed with physicians and paramedics covering the shifts. The medical center is equipped with cyanide antidote kits (including amyl nitrite, sodium nitrite and sodium thiosulfate), oxygen, first aid kit, and an automated external defibrillator (AED) which provides the same function as a resuscitator for emergency response.
The operation has an ambulance equipped for cyanide exposure emergencies, has an arrangement with the San Luis Potosi hospital "Nuestra Señora de la Salud" to provide assistance to workers exposed to cyanide. The operation is confident that the medical facility has adequate qualified staff, equipment and expertise to respond to cyanides exposures. MSX performed two emergency drills related to cyanide accidents in 2013 at the time of the audit date. Lessons learned from the drills were analyzed and improvement opportunities were incorporated into the Emergency Response Plan.
PRINCIPLE 7 – EMERGENCY RESPONSE
Protect Communities and the Environment through the Development of Emergency Response Strategies and Capabilities

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

☑ in full compliance with

The operation is ☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 7.1

Summarize the basis for this Finding/Deficiencies Identified:
The operation is in full compliance with Standard of Practice 7.1 which requires that the site prepare detailed emergency response plans for potential cyanide releases.

MSX has developed an Emergency Response Plan which addresses specific actions for potential accidental releases of cyanide during transport and operations. Key appendices address transport emergencies, firefighting emergencies, other cyanide contingencies, and crisis management. These documents describe actions for scenarios related to HCN gas: transportation (on- and offsite), spills during unloading and mixing, fires and explosions, pipe, valve, and tank ruptures, pond overtopping, seepage and leaks, and heap leach failure. Although the Emergency Response Plan does not consider power outages, MSX has full generator backup for all cyanide facilities and a storm pond designed for the 100-year 24-hour event. In the case of a transportation emergency (on-site or off-site), DuPont is responsible for the emergency response as well as for the remediation and cleanup of any cyanide release during transportation, although MSX may assist at their discretion and has included the DuPont emergency procedure as an appendix to the Emergency Response Plan. The MSX Emergency Response Plan addresses evacuation, first aid and medical attention for cyanide intoxication, and control of releases to surface water, groundwater, and soil.

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

☑ in full compliance with

The operation is ☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 7.2

Summarize the basis for this Finding/Deficiencies Identified:
The operation is in full compliance with Standard of Practice 7.2 which requires that the site involve site personnel and stakeholders in the planning process.
MSX involves its workforce in the cyanide response planning via weekly meetings and monthly H&S Committee meetings. MSX involves stakeholders in the emergency response plans by inviting them to briefings on the Cyanide Code and the Emergency Response Plan. Potentially affected communities are aware of the nature of the risks associated with accidental cyanide releases. MSX has involved the San Luis Potosí fire brigades, the San Luis Potosí civil defense authorities, and the San Luis Potosí hospital “Nuestra Señora de la Salud” in the cyanide emergency briefings.

**Standard of Practice 7.3:** Designate appropriate personnel and commit necessary equipment and resources for emergency response.

- [x] in full compliance with
- [ ] in substantial compliance with
- [ ] not in compliance with

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

The operation is in full compliance with Standard of Practice 7.3 which requires that the site designate appropriate personnel and commit necessary equipment and resources for emergency response.

MSX has developed an Emergency Response Plan for all types of incidents; the plan has an appendix specific to cyanide contingencies. Other appendices address transportation incidents, firefighting, and crisis management. The Emergency Response Plan describes the responsibilities and authority of the emergency responders; they are clearly identified in an updated contact information list. The plan addresses the required training, call-out procedures, and 24-hour contact information, as well as the emergency response equipment and its inspection procedures. The role of outside responders, medical facilities and communities is described in the Emergency Response Plan. In case of an emergency the external aid agencies will act as support outside the mine operation. The only exception to the exterior roles is DuPont, who would come onto the mine property in the event of a transportation emergency. The auditors reviewed a mock drill report that showed DuPont was an observer for June 2013 mock drill, thereby confirming they are aware of their role.
Standard of Practice 7.4: Develop procedures for internal and external emergency notification and reporting.

☒ in full compliance with

☐ in substantial compliance with Standard of Practice 7.4

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 7.4 which requires that the site develop procedures for internal and external emergency notification and reporting.

The Emergency Response Plan includes procedures and contact information for regulatory agencies, outside response providers, and medical facilities. MSX will communicate with the authorities to ask for support with potentially affected communities from the: Municipal Civil Protection San Luis Potosi, State Civil Protection, General Directorate of State Security of San Luis Potosi, Mexican Red Cross, and the San Luis Potosi Fire Department. A Crisis Management Plan is appended to the Emergency Response Plan to guide communications with the media and other interested parties.

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

☒ in full compliance with

☐ in substantial compliance with Standard of Practice 7.5

☐ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

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

MSX describes the procedures for recovery and neutralization of solution and solid cyanide in the Appendix 13 to the Emergency Response Plan. The plan includes procedures to neutralize contaminated soils as necessary with hypochlorite solution (as long as there is no risk of a flow path to surface water). The mixing method is described. The soil sampling method is generally described to include surface and depth samples. The remediation end point for soil is specified as 2 mg/kg total cyanide. Up to four options are provided for disposal or management of cleanup materials, with the most likely being disposal on the heap leach pad. In the case of an impact to a public use well, MSX would provide potable water service while groundwater was being treated. In the case of an impact to a surface water body
(e.g., seasonal ponds or “bordos”), MSX would fence off the pond and install an alternative source of water for livestock. In multiple sections, Appendix 13 prohibits the use of sodium hypochlorite, ferrous sulphate, and hydrogen peroxide to treat cyanide when there is the risk of the solution reaching a body of water. Individual sections of Appendix 13 describe general environmental monitoring approaches to identify the nature and extent of a cyanide release to air, soil, groundwater, and surface water bodies. Specific sampling and analysis methods are specified in the MSX General Environmental Monitoring Program.

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

- [x] in full compliance with
- [ ] in substantial compliance with
- [ ] not in compliance with

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

The operation is in full compliance with Standard of Practice 7.6, which requires that the site periodically evaluate response procedures and capabilities and revise them as needed.

MSX reviews and updates the Emergency Response Plan annually or more frequently, depending on the nature of the revisions. MSX provided a version of the plan that was created in June 2011 and most recently updated in August 2013. A summary table on page 83 of the plan shows revisions in 2012 and 2013.

The Emergency Response Plan contains a section describing the process for holding mock drills and updating the plan based on the results. Appendix 6 of the Emergency Response Plan contains the schedule for 2013 mock drills. MSX performed two emergency drills related to cyanide accidents in 2013. MSX prepared drill reports for to analyze lessons learned and identify improvement opportunities. The auditors reviewed an example of updating the plan after the February 2013 mock drill.

The Emergency Response Plan contains general statements that cover plan updates under a broad range of circumstances. MSX does in fact review and, if needed, update the plan after cyanide-related incidents. MSX experienced a cyanide-related spill from the process plant on November 28, 2013. The revision table for Appendix 13 indicated the plan was reviewed after this incident, but was not updated because the measures described in the plan were adequate.
PRINCIPLE 8 – TRAINING
Train Workers and Emergency Response Personnel to Manage Cyanide in a Safe and Environmentally Protective Manner

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

☑ in full compliance with

☐ in substantial compliance with

☐ not in compliance with Standard of Practice 8.1

Summarize the basis for this Finding/Deficiencies Identified:

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

MSX has developed a written training program in the form of an annual Gantt chart to schedule all health and safety training, including cyanide hazard recognition training. MSX provides initial training and refresher training to employees and contractors with the potential to be exposed to cyanide. Training material covers cyanide characteristics, natural sources, transportation, use at the Cerro de San Pedro Mine, cyanide packaging, HCN toxicity, relationship of HCN formation and pH, HCN exposure limits, and PPE. The training materials also cover cyanide intoxication routes and symptoms, antidote kits, first aid treatment depending on the intoxication type (i.e., inhalation, digestion, and skin contact), amyl nitrite and oxygen administration, decontamination procedures, and emergency equipment. The auditors reviewed training records and interviewed staff to verify compliance. The training records included test results demonstrating an understanding of the training.

Standard of Practice 8.2: Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

☑ in full compliance with

☐ in substantial compliance with

☐ not in compliance with Standard of Practice 8.2

Summarize the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 8.2 which requires that the site train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community, and the environment.
MSX personnel in positions involving use of cyanide and cyanide management receive training on how to perform their assigned tasks with minimum risk to worker health and safety. The training materials are the written MSX work procedures and instructions. The training materials include responsibilities, health risks, environmental risks, PPE, safety equipment, HCN alarms, pre-work inspections, checklists, and personnel allowed in the work area. Task training is provided before an operator can work with cyanide by area managers and supervisors with extensive experience. MSX provides refreshers on task training every 6 months. The operation uses written quizzes to evaluate the effectiveness of cyanide training. Training records include date, name of the employee, name of the trainer, topics covered, and quiz results.

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

- **in full compliance with**
- **in substantial compliance with**
- **not in compliance with**

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

The operation is in full compliance with Standard of Practice 8.3 which requires that the site train appropriate workers and personnel to respond to exposures and environmental releases of cyanide.

MSX trains employees working with cyanide in cyanide effects on human health, cyanide intoxication routes and symptoms, first aid treatment, emergency equipment, cyanide spills response, emergency communications and evacuation procedures. Personnel responsible for cyanide unloading, mixing, processing, and heap leach operations and maintenance, are trained in decontamination and first aid procedures in case of a cyanide emergency.

The emergency response team receives specialized training in cyanide first aid treatment, firefighting, emergencies management, and emergency response procedures for cyanide exposures and releases. MSX has established that in case of a cyanide emergency, the external responders will provide support services in the exterior areas of the mine site. MSX provides refresher training for ‘Management Practices And Emergency Response Involving Hazardous Materials’ annually and refresher training for procedures related to emergency response for exposure and releases every 6 months.

MSX performed two cyanide mock drills in 2013 that involved both exposure and release scenarios. After each drill, the brigade commander analyses the results with the participants and observers. Action plans are developed to address the findings for both drills, including training related findings.
MSX retains training records throughout an individual's employment documenting the training they receive. The records include the names of the employee and the trainer, the date of training, the topics covered, and quiz results.
PRINCIPLE 9 – DIALOGUE
Engage in Public Consultation and Disclosure

Standard of Practice 9.1: Provide stakeholders the opportunity to communicate issues of concern.
- in full compliance with
- in substantial compliance with
- not in compliance with

The operation is in substantial compliance with Standard of Practice 9.1

Summarize the basis for this Finding/Deficiencies Identified:
The operation is in full compliance with Standard of Practice 9.1 which requires that the site Provide stakeholders the opportunity to communicate issues of concern.

MSX provides opportunities for stakeholders to provide input via an information booth in the village of Cerro de San Pedro, by use of a suggestion box, by open informal communications, and via regular meetings with the nearby communities. MSX tracks the effectiveness of these opportunities with a monthly community relations report that is prepared in accordance with the MSX Community Relations Plan. The auditors visited the information booth, viewed the visitor logs, and reviewed examples of the monthly reports to verify compliance.

Standard of Practice 9.2: Initiate dialogue describing cyanide management procedures and responsively address identified concerns.
- in full compliance with
- in substantial compliance with
- not in compliance with

The operation is in full compliance with Standard of Practice 9.2

Summarize the basis for this Finding/Deficiencies Identified:
The operation is in full compliance with Standard of Practice 9.2 which requires that the site initiate dialogue describing cyanide management procedures and actively address identified concerns.

MSX creates opportunities for stakeholders to provide input by conducting a program of regular community meetings, by supporting local organizations, and by providing medical assistance to local communities. MSX tracks the effectiveness of these opportunities with a monthly community relations report that is prepared in accordance with the MSX Community Relations Plan. The auditors reviewed examples of the monthly community relations reports to verify compliance.
Standard of Practice 9.3: Make appropriate operational and environmental information regarding cyanide available to stakeholders.

☒ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

**Standard of Practice 9.3**

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

The operation is in full compliance with Standard of Practice 9.3 which requires that the site make appropriate operational and environmental information regarding cyanide available to stakeholders.

MSX has developed written descriptions of how their activities are conducted and how cyanide is managed. These descriptions are available to communities and other stakeholders at locations such as the information booth in the Cerro de San Pedro Village. MSX publishes articles in local newspapers. MSX also provides the public with an annual sustainability report that includes a section on wildlife mortalities from cyanide exposure.

Notwithstanding the high literacy rate indicated by UNICEF statistics, MSX interacts verbally with stakeholders at the information booth at Cerro de San Pedro Village, via regular community meetings, and community visits by the MSX Community Development Manager.

The MSX Emergency Response Plan and its appendices includes procedures for notification of Mexican federal agencies in the event of a cyanide spills (PROFEPA) or exposures (IMSS and STPS). These federal agencies would make the information available to the public. MSX has not had any recent cyanide exposures, offsite cyanide releases, or on/off site cyanide releases resulting in significant adverse effects to health or the environment. However, in late 2013, MSX reported a cyanide release on the mine site that required reporting under applicable regulations because of the volume involved. This information is publically available via these reports to PROFEPA.
GOLDER ASSOCIATES INC.

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KJ/BP/sj

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Established in 1960, Golder Associates is a global, employee-owned organization that helps clients find sustainable solutions to the challenges of finite resources, energy and water supply and management, waste management, urbanization, and climate change. We provide a wide range of independent consulting, design, and construction services in our specialist areas of earth, environment, and energy. By building strong relationships and meeting the needs of clients, our people have created one of the most trusted professional services organizations in the world.