ICMC RECERTIFICATION
SUMMARY AUDIT REPORT

Phoenix Mine, Nevada,
United States of America

Submitted to: International Cyanide Management Institute (ICMI)
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Washington, DC  20005
United States of America

and

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1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

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Name of Mine Operator: Phoenix Mine
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2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

2.1 Mine Location

The Phoenix Mine is located in Lander County, Nevada, USA, approximately 12 miles south of the Town of Battle Mountain, as shown in Figure 1 below.
ICMI CERTIFICATION SUMMARY REPORT

Figure 1: Regional Location Map
2.2 Background

The Phoenix Mine has a long history of mining starting with the first recorded discovery of copper ore in the Copper Canyon area in 1864. Copper mining prevailed into the early 20th century and precious metal lode mining occurred throughout the first half of the 20th century. Placer gold mining, the Natomas dredge operations, took place in the 1940s and early 1950s alongside open pit copper mining and flotation milling by the Duval Corporation that continued into the 1970s. Mining and milling of lode gold ore began in the late 1970’s, with the conversion of the Copper Canyon mill from copper concentrate production to a cyanide leach carbon-in-pulp (CIP) adsorption facility in 1978, and was continued into the early 1990s by Battle Mountain Gold Company when heap leaching of lower grade disseminated gold ore began (Reona Heap Leach Pad). Mining and milling of ore from the Fortitude Pit commenced in September 1992 and continued until the open pit mine ceased production in early 1993; and the Fortitude Mill ceased operations in March 1993. In October 1993, the Reona Heap Leach Pad was constructed to expand open pit mining and include gold heap leaching operations. Extraction of leach-grade gold ore ceased during the first quarter of 2006, and leaching of the Reona Heap Leach Pad was discontinued in July 2006.

The Phoenix Mine includes the Phoenix, Midas, Reona, and Iron Canyon open pits and excavation of the existing Northeast Extension, Tomboy, Midas, and Fortitude gold ore stockpiles. Waste rock from expanded mining operations is being deposited in existing and sequentially mined open pits, deposited over existing inactive waste rock and copper leach dumps, and on new waste rock facilities located on adjacent undisturbed ground.

The Phoenix Mill, constructed in 2005, is designed for the beneficiation of run-of-mine grade ores from the mining operations. Gold, silver, and copper are recovered by: (1) coarse gold recovery by gravity separation; 2) two-stage flotation to produce a copper sulfide concentrate for offsite processing; and (3) further processing of the flotation tailings using a carbon-in-pulp leach (CIP) circuit for additional gold and silver recovery.

Run-of-mine ore is fed at a nominal 35,000 tons per day to the primary and secondary crushing plants and then conveyed to the semi-autogenous grinding (SAG) mill where water is added for grinding. Underflow from the SAG mill drops into a sump and mixes with discharge from the ball mills. The sump slurry is pumped to a bank of cyclones. The grinding cyclone overflow reports to the rougher flotation. The underflow stream is divided and conveyed to each of the ball mills. A split of the discharge from each ball mill is pumped to gravity gold recovery units and the concentrates from the gravity units are diverted to an intensive cyanidation unit (ICU). The gravity unit tails are pumped to a contact flotation cell to recover finer-grained gold.
Slurry from the grinding cyclone overflow feeds the rougher flotation cells. The rougher flotation concentrate and contact cell concentrate are combined and cleaned in two stages of gravity separation. Concentrate from the two-stage gravity separation unit is directed to a primary cleaner column flotation cell. Rougher scavenger concentrate, along with concentrate from the cleaner flotation cells and the cleaner scavenger flotation cells, is sent to the flotation regrind mills. The regrind concentrate is then cleaned in three stages of flotation utilizing both mechanical and column flotation technology.

Tailings from the rougher and cleaner scavenger circuits are pumped to a pair of de-slime cyclones at the head of the CIP leach circuit. Most of the gold in the slurry reports to the cyclone underflow while most of the cyanide soluble copper reports to the cyclone overflow. The cyclone underflow is pumped to the CIP leach tanks and combined with cleaner scavenger tails. Lime and cyanide solution are added at the head CIP leach tank to respectively control pH and enhance precious metal dissolution. The slimes material from the cyclone overflow is pumped to the fines thickener tank and dewatered using flocculant and reclaim water for make-up. The thickened slurry (underflow) is pumped to the CIP circuit tails tank and the thickener overflow is returned as mill make-up water. The CIP leach tanks discharge to the CIP leach circuit, where dissolved precious metals are adsorbed onto activated carbon particles. Loaded carbon is collected for stripping and the tails slurry passes through a Caro’s acid (peroxymonosulfuric acid) and ammonium bisulfite destruction circuit prior to discharge to the tailings impoundment. A Caro’s acid generator is located within the mill and the ammonium bisulfite tank is located just outside the mill.

Loaded carbon is transferred from the mill CIP leach circuit by pipeline. The carbon is washed with hydrochloric acid in the acid wash tank, neutralized with caustic soda, and pumped to the strip vessel. Copper is removed from the carbon by an ambient temperature cyanide rinse and the resulting rinse solution is pumped to the CIP circuit tails tank. Following the cyanide rinse for copper, the carbon is stripped of precious metals with a hot caustic solution. Barren carbon is conveyed through a regeneration kiln and the activated product is mixed with fresh make-up carbon and pumped to CIP agitator tank for reintroduction into the CIP recovery circuit.

Pregnant solution from the carbon stripping process is pumped through a circuit comprised of electrowinning cells. The electrowinning precipitate is filtered, heated in a retort to dry the product, and then shipped to Newmont facilities at Twin Creeks or the Carlin complex for refining of precious metals.

Historic tailings impoundments on site consist of two separate impoundments separated by an east-west earthen embankment. The northern portion of the impoundment was developed first and was used to contain tailings from the historic copper milling process until being filled in 1970. The southern portion of the impoundment was constructed in 1972, to store copper tailings and gold tailings from the more recent gold mining and milling operations. Neither impoundment was constructed with an engineered liner. The
Phoenix Project consists of a constructed lined tailings impoundment over the existing northern copper tailings impoundment. The synthetic-lined impoundment basin is covered with a minimum 18-inch thick cover of locally borrowed alluvial silty sand and gravel to protect the synthetic liner and to provide relief for hydraulic head pressure and promote solution collection and flow into the underdrain system. The southern portion of the historic impoundment has been covered for closure.

Tailings slurry is conveyed by gravity from the Phoenix Mill to the Phoenix Tailings Storage Facility (TSF) through a 20-inch diameter slurry pipeline. Reclaim water reports to the Reclaim Pond, which is lined and contains a leak detection system. Reclaim water is pumped back to the Phoenix mill via a pipeline that shares a common corridor with the slurry pipeline. Both pipelines are largely constructed above ground.

The Phoenix cyanide facilities are largely unchanged from the initial audit and the first recertification audit. However, there are two new or changed cyanide facilities for this audit cycle:

- The expansion of the flotation circuit (i.e., the B-C trains), which was under construction but not operating during the previous audit cycle
- Stages 4A, 4B, and 5 of the tailings impoundment

The Reona Heap Leach continues to be permanently inactive and no longer receives process solution, as was the case during the initial certification audit and the first recertification audit. Cyanide use ceased in July 2006 when the sodium cyanide storage tank was emptied. Recirculation of the residual solution ceased in May 2008, and all draindown is now conveyed to the Phoenix Tailings Storage Facility. Water quality data from 2012 to 2015 for samples collected at the Reona pregnant solution tank demonstrate that the concentration of WAD cyanide in the residual solution was continuously below 0.5 mg/L. Therefore, the Reona Heap Leach is no longer a “cyanide facility” that is subject to the Code.
3.0 SUMMARY AUDIT REPORT

3.1 Auditors Findings

☑ in full compliance with

Phoenix is: ☐ in substantial compliance with

☐ not in compliance with

The International Cyanide Management Code

This operation has experienced compliance problems during the previous 3-year audit cycle, which are discussed in this report under Standard of Practice 9.3. These incidents have not been "significant cyanide incidents" subject to the notification requirements in Item 6 of the ICMC signatory application; they do not affect the compliance status. These incidents did not involve worker exposures to cyanide. Rather, these incidents were minor releases of cyanide-bearing solutions to soil that were reported to regulators, and thus are subject to listing under Question 3 of the Standard of Practice 9.3.

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

Name of Other Auditors

<table>
<thead>
<tr>
<th>Name, Position</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Ivon Aguinaga, Mining Technical Specialist, Golder Associates Inc.</td>
<td>![Signature]</td>
</tr>
<tr>
<td>Rick Frechette, Independent Auditor Standard of Practice 4.3 and portions of Standard of Practice 4.8</td>
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Dates of Audit

The Recertification Audit was undertaken within four days from February 9 to 12, 2015.

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

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

Phoenix Mine
Name of Facility
Signature of Lead Auditor
May 8, 2015
Date

Phoenix Mine
Name of Facility
Signature of Lead Auditor
May 8, 2015
Date

May 2015
Project No. 1411567
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

Phoenix is ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 1.1

Summarize the basis for this finding:

Phoenix 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.

Phoenix has committed to only purchase cyanide from a producer which is compliant with the Code. Provisions to the contract between Newmont and Cyanco state that Cyanco shall remain a signatory to the Code and comply with the Code’s Production and Transportation Principles and Standards of Practice during the duration of the contract. Phoenix only purchases cyanide that is manufactured at Cyanco’s production facility, located in Winnemucca, Nevada, and does not use any independent distributors. Cyanco’s production facility was most recently certified under the Code on July 12, 2013.
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

Phoenix is ☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 2.1

Summarize the basis for this finding:

Phoenix 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.

Newmont has a sodium cyanide supply contract with Cyanco, which specifies that the operation takes ownership of the cyanide at the time of delivery. Cyanco is by contract solely responsible for the production and transport of sodium cyanide to the delivery point at Phoenix. Cyanco is a signatory producer to the Code and subcontracts TransWood for transportation of the cyanide to Phoenix. TransWood is a signatory to the Code and has been most recent recertified as fully compliant with the Code on July 12, 2013. Provisions to the contract between Newmont and Cyanco (signed on November 2005) establish clear lines of responsibility for safety, security release prevention, training and emergency response for Cyanco. In addition, the Cyanco and TransWood audit certification reports indicate the designated responsibilities for Cyanco and TransWood in the different sections of the reports.

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

Phoenix is ☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 2.2

Summarize the basis for this finding:

Phoenix 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.
Cyanco is by contract solely responsible for the production and transport of cyanide to the delivery point at Phoenix. Cyanco is a signatory producer to the Code and subcontracts TransWood for transportation of the cyanide to Phoenix. TransWood is a signatory to the Code and has been most recently recertified as fully compliant with the Code on July 12, 2013. Bills of lading were reviewed to verify that the cyanide delivered to Phoenix was produced by Cyanco and transported by TransWood. Phoenix provided examples of bills of lading for cyanide shipments from November 2012 to January 2015.
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

Phoenix is ☐ in substantial compliance with ☐ not in compliance with Standard of Storage Practice 3.1

Summarize the basis for this finding:
Phoenix is in FULL COMPLIANCE with Standard of 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.

The Phoenix unloading and storage facility for cyanide was designed and constructed in accordance with sound and accepted engineering practices. No changes or modifications have been made since the initial certification audit and the first recertification audit. Design documentation for the cyanide unloading and storage facility was reviewed during the initial certification audit and the findings are still valid.

The Phoenix unloading and storage facility is located outside on the southeast wall of the mill; the facility location has not changed since the initial certification audit and the first recertification audit. The facility is not located near any offices or places where workers congregate. The facility is located within the fenced and secured area of the mine where public access is controlled. Phoenix is located in an arid area where there are few surface water bodies; there are no surface water bodies nearby.

Liquid cyanide is unloaded from tanker trucks on a curbed concrete pad with a sump for recovering any leaked solutions to minimize seepage to the subsurface. The sump is manually pumped to the adjacent sump within the cyanide tank secondary containment; this second sump is equipped with a pump and automatic controls to return liquids to the tailings collection feedbox. The storage tank is located within concrete secondary containment that is a competent barrier to leakage. The auditors observed the offloading pad, the tank secondary containment, and the sumps to be in good condition.

Phoenix has a single storage tank equipped with an ultrasonic level indicator. The tank level is monitored from the control room. High level alarms are signaled by an alarm in the control room and a flashing
amber light by the tank. The auditors reviewed level sensor maintenance records from throughout the recertification period to verify the sensor was functional.

The cyanide storage tank is located outside with adequate ventilation and has a fixed hydrogen cyanide gas (HCN) monitor. Phoenix provides a security check-in point and video surveillance to prevent unauthorized access. The offload camlock is kept locked, as are the critical valves on the tanks and pumps, to further prevent unauthorized access. Incompatible chemicals are stored in separate concrete containment areas.

**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

**Summarize the basis for this finding:**

Phoenix is in FULL COMPLIANCE with Standard of Practice 3.2 requiring that cyanide handling and storage facilities are operated using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

Phoenix receives liquid cyanide produced by Cyanco and delivered by TransWood. The liquid is transferred directly from the tanker to the cyanide storage tank and there are no empty cyanide containers to be managed. Phoenix has developed a procedure for cyanide offloading that includes measures to prevent exposures and releases of cyanide during unloading and storage, as well as defines the responsibilities of the truck driver, the operator, control room operator, and supervisor. Phoenix has a copy onsite of Cyanco’s Sodium Cyanide Delivery Procedure that includes step by step the offload procedures. Phoenix requires appropriate personal protective equipment and observation by an operator during the offloading. The offload is also observed via camera from the control room. Both the transporter and operator check to confirm that the storage tank has sufficient capacity for the unloading. The Phoenix operator is trained in emergency procedures, valve operation, and the emergency shut off. The auditors observed an offload to verify that the procedure was followed.
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

Phoenix is
☐ in substantial compliance with Standard of Practice 4.1
☐ not in compliance with

Summarize the basis for this finding:
Phoenix 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 preventative maintenance procedures.

Phoenix has implemented cyanide management and operating systems to protect human health and the environment. At the highest level, Phoenix is ISO 14001 certified for environmental management. Phoenix has developed operating plans, manuals, and procedures that describe the practices necessary for the safe and environmentally sound operation of the facility, including the specific measures needed for compliance with the Code and regulatory requirements. The Phoenix Mine Operating Plan covers the water management strategies for process facilities, including actions for emergency or unusual operating conditions and unexpected temporary closure.

Phoenix has implemented a management of change procedure developed by Newmont at the corporate level. The procedure is accompanied by a form that must be signed off by supervisors, department heads, and managers depending on the risk rating, including safety and environmental staff. Phoenix provided four completed management of change forms during the recertification period to verify compliance.

Phoenix has developed contingency plans for elevated groundwater monitoring parameters; leaks, spills, and releases; slope failures; earthquakes; temporary closure; and breach, seeps, deformation, and cracks in the tailings impoundment. The auditors verified compliance by review of the Phoenix Mine Operating Plan and the Tailings Emergency Action Plan. In addition, Phoenix has developed a contingency procedure specific to failure of the Caro’s acid plant for cyanide destruction in the tailings slurry.
Phoenix has inspected the cyanide facilities and equipment to assure their continuous and safe operation. Inspections have included cyanide tanks, secondary containments, pipelines, pumps, valves, tailings storage facility, reclaim pond and the leak detection and collection systems. Phoenix has evaluated the integrity of the cyanide storage tank annually via ultrasonic measurements of the wall thickness. The tailings impoundment and reclaim pond have been inspected daily for water depth and freeboard. The run-on diversions for the tailings impoundment have been inspected monthly and after large rains. Phoenix has documented these inspections using forms, reports, and letters which include the name of the inspector, date, and a comments column where deficiencies were noted. Deficiency notifications have been sent to maintenance planners where they were scheduled for corrective maintenance via work orders in the SAP software. The inspection frequency has been shift, daily, weekly, monthly, and quarterly depending on the facility being inspected and the department conducting the inspections. The auditors reviewed completed inspection forms from throughout the recertification period to verify compliance.

Phoenix has implemented a preventative maintenance program to ensure equipment and devices function for safe cyanide management. Preventive maintenance covers pH and HCN meters, emergency generators, ultrasonic tank level indicators, pumps, valves, and tanks. Phoenix manages planned (proactive) maintenance and corrective (reactive) maintenance with the SAP software. The auditors verified that maintenance activities have been carried out by reviewing maintenance histories for five randomly selected pieces of equipment related to cyanide management, as well as by reviewing examples of completed work orders.

Phoenix has two diesel generators for use in a power outage. The auditors observed these generators and reviewed start-up and run tests, as well as maintenance records to verify compliance.

**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:**

Phoenix is in FULL COMPLIANCE with Standard of Practice 4.2, requiring that the operation limits 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.

Phoenix has defined seven metallurgical domains for the pits and stockpiles providing ore to the mill. Over the last 3 years, only three of the seven domains have been processed at the mill. The auditors
reviewed four examples of bottle roll test work to verify that Phoenix has conducted a program to determine appropriate cyanide addition rates as ore types changed during the recertification period.

Phoenix has adopted a strategy to add the least amount of cyanide needed to meet the post-destruction WAD cyanide target of 25 ppm at the spigots at the tailings impoundment (aka, a “starvation” strategy). In conjunction with controlling cyanide addition rates, two cyanide destruction systems (i.e., Caro’s Acid and ammonium bisulfite) are used to meet this target. Phoenix analyzes samples at their internal laboratory for free and WAD cyanide from four locations, including post-destruct and the tailings spigots, on a per shift basis. The operators adjust cyanide pump flow rates as needed to meet the target for the tailings spigots. The auditors reviewed operator logs and shift reports that showed that Phoenix adjusted cyanide addition rates throughout the recertification period to implement their strategy to limit cyanide concentrations in tailings.

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

- [x] in full compliance with

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

**Standard of Practice 4.3**

**Summarize the basis for this finding:**

Phoenix 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.

**Third Party Review**

The existing water balance and operational monitoring practices address climate, operational modifications and provides for maintaining adequate freeboard. The water balance can be considered to be comprehensive and probabilistic. The water balance considers tailings deposition rates, a design storm event, representative climate data, diversion of upgradient run-on, adequate impoundment sizing and redundant pumping systems. Monitoring is provided to track pond levels and assess freeboard maintenance.

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

- [x] in full compliance with

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

**Summarize the basis for this finding:**
Phoenix is in FULL 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 only open waters at Phoenix with cyanide-related solutions are associated with the tailings impoundment; i.e., the supernatant pool and the reclaim pond. Phoenix has installed barbed wire fencing around the mine perimeter and chain link fencing around the reclaim pond to restrict wildlife access. Phoenix uses both Caro’s acid and ammonium bisulfite to destroy cyanide in the tailings before discharge to the tailings impoundment.

Phoenix was inconsistent in achieving WAD cyanide concentrations less than 50 ppm at the tailings spigot in during portions of 2012 and 2013. WAD cyanide concentrations exceeded 50 ppm with some regularity with concentrations up to 200 ppm. However, this occurred during the testing period for the ammonium bisulfite circuit, as evidenced by letters between Phoenix and the Nevada Department of Environmental Protection. After the testing period when Phoenix was authorized to fully implement the ammonium bisulfite circuit (in conjunction with the existing Caro’s acid circuit), there were only minor and isolated excursions greater than 50 ppm WAD cyanide. From a regulatory compliance point of view, the summary tables of quarterly compliance results from an external laboratory showed that WAD cyanide ranged from approximately 5 to 32 ppm for the tailings liquid fraction during the recertification period. The auditors conclude that a finding of full compliance is justified because Phoenix was in the process of implementing better destruction methods, was actively engaged with the regulators, was transparent during the site visit, and ultimately gained control of the system to meet the target for cyanide at the tailings impoundment.

The concentration of WAD cyanide in the reclaim water did not exceed 50 ppm during the recertification period. The auditors reviewed times series graphs of monthly WAD cyanide data from Phoenix’s internal laboratory to verify compliance. These results were corroborated by the quarterly compliance results of the reclaim water analysed by an external laboratory.

Phoenix reports and investigates wildlife mortalities in accordance with a written procedure and the conditions of its Industrial Artificial Pond Permit issued by the Nevada Department of Wildlife. Phoenix reported and investigated wildlife mortalities related to open waters with cyanide solutions during the recertification period. The auditors consider that the wildlife mortalities at the open waters in 2012 (four birds) and 2014 (four birds) were random and isolated incidents that were not clearly caused by cyanide intoxication. However, the higher number of mortalities in 2013 (15 birds) was cause for concern by both Phoenix and the Nevada Department of Wildlife, and accordingly additional investigation and mitigation were cooperatively undertaken. Phoenix voluntarily reduced the surface area of the supernatant pool as mitigation to make the open water less attractive to birds. The collaborative
investigation showed that the bird mortalities of 2013 may have been related to multiple causes, such as starvation, or cyanide intoxication, but there was no single clear cause attributed to all of the mortalities. Phoenix staff stated that no violations were issued and no fines were assessed given the inconclusive investigation results.

The auditors consider that Phoenix acted in good faith to report, investigate, and mitigate the 2013 bird mortalities in a timely manner, and this good faith was acknowledged in writing by the regulators. Given that the 2013 level of bird mortalities did not continue in 2014, the auditors judge that control has been re-established and a finding of full compliance is warranted.

Phoenix does not have an active gold heap leach facility, and therefore the Code requirements for ponding and overspray are inapplicable.

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

☐ in full compliance with

Phoenix is ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 4.5

**Summarize the basis for this finding:**
Phoenix 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.

Phoenix does not have direct or indirect discharges to surface waters. Phoenix operates with zero discharge of process solutions.

**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

Phoenix is ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 4.6

**Summarize the basis for this finding:**
Phoenix 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.
The active cyanide facilities at Phoenix consist of the mill and related conveyance pipes, tanks and containments, the tailings delivery and reclaim water pipelines, the tailings storage facility, and the reclaim pond. The plant, and the expansion B-C Trains in a separate building, have concrete spill containment to prevent seepage and are connected by high-density polyethylene (HDPE) pipelines in two concrete utilidors. The tailings delivery pipelines are contained within a lined channel. The reclaim water pipelines are constructed of Tite-Liner® pipe, composed of an outer steel pipeline with a HDPE pipe insert. The outer pipeline has inspection ports to detect water presence.

The tailings storage facility is lined with 80-mil linear low-density polyethylene (LLDPE) geomembrane for Stages 1 through 3 and 80-mil HDPE for Stages 3 through 8. All stages were placed on compacted copper tailings or natural alluvium subgrade and overlain by 18 inches of granular alluvium cover.

The reclaim pond is double-lined with 60-mil HDPE primary and secondary geomembrane. The pond has a leak detection system, consisting of an HDPE geonet layer placed between the primary and secondary liners and connected to leak collection sump. The sump is equipped with an automatic pump. Reclaim solution is returned to the mill.

The beneficial use for groundwater downgradient of the cyanide facilities, as designated by the State of Nevada, is agricultural and livestock use. The standard for protection of the beneficial use is 0.2 ppm WAD cyanide. Phoenix monitors eight downgradient point-of-compliance wells. The monitoring for this audit cycle showed no detectable WAD cyanide in groundwater, with one exception of one result for one well where cyanide was detected but well below the 0.2 ppm standard.

Phoenix does not use mill tailings as underground backfill and is not engaged in remedial activity related to cyanide to prevent further degradation and restore beneficial use.

**Standard of Practice 4.7:** Provide spill prevention or containment measures for process tanks and pipelines.

☑ in full compliance with

Phoenix is ☐ in substantial compliance with ☐ not in compliance with **Standard of Practice 4.7**

**Summarize the basis for this finding:**

Phoenix 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.
No changes have been made to secondary containments for the cyanide-related tanks, vessels, and pipelines since the initial certification audit and the first recertification audit, with the exception of the new B-C Trains.

Phoenix has spill prevention and containment measures for the cyanide unloading and storage area, the carbon-in-pulp/leach area, the carbon circuit area that contains the intense cyanidation solution tank, and the tailings collection box. Phoenix has automated pumps within the containments to pump collected solutions into the process circuit. The containments are constructed of cast-in-place reinforced concrete with sufficient capacity to contain more than 110 percent of the largest tank.

Phoenix constructed the new B-C Trains within a roofed building that has both secondary and tertiary containment. The entire building has a concrete floor and walls to contain any spills and the roof excludes precipitation from the containment. The rougher flotation area has a sump to return solutions to the flotation cells. The conditioning tank area has secondary containment for 110 percent of the largest tank, while the rougher flotation cell area has almost double the containment capacity of the largest vessel. The utilidors connecting the building to the plant provide secondary containment for the pipelines within them, as well as flow-through tertiary containment for the B-C Trains to the plant.

All tanks and pipelines are constructed of materials compatible with cyanide and high pH conditions. All pipelines have secondary containment, either as a pipe-in-pipe configuration or a pipe within a HDPE-lined containment. Phoenix does not have any perennial or ephemeral surface water bodies that require special protection needs for pipelines.

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 

Phoenix is ☐ in substantial compliance with☐ not in compliance with 

Standard of Practice 4.8

Summarize the basis for this finding:

Phoenix 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.

The cyanide facilities at Phoenix are largely unchanged from the initial certification audit and the first recertification audit, with the exception of Stages 4A, 4B, and 5 of the tailings impoundment and the new B-C Trains for the plant. Phoenix implemented construction quality assurance programs for these
modified and new facilities. Golder was involved in the tailings expansions, and therefore a third party auditor was retained to review those documents.

**Third Party Review – Tailings Stages 4A, 4B, and 5**

Construction Quality Assurance (CQA) documents exist and are maintained on site to demonstrate the facilities have been constructed to meet the required standards. These contain evidence of addressing materials suitability, compaction testing and liner installation CQA relative to the tailings facility. These documents have been certified by qualified parties.

**Golder Review – B-C Trains**

Construction management was provided by Praetorian Construction Management Inc. CQA was provided by Schmueser and Associates, Construction Materials Engineers Inc. (CME), The Industrial Company (TIC), FLSmith Inc., and others. The content of the CQA program included both field and laboratory elements and covered earthwork, concrete, drilled shafts, steel, welding, piping, electrical, instrumentation, painting, etc. The auditors reviewed numerous CQA documents to verify compliance.

Newmont has its own contractor’s license and served as the general contractor for construction of the B-C Trains. CQA documents were signed by field staff and supervisors, as well as sealed by the supervising professional engineers. Phoenix provided a letter from the Nevada Department of Environmental Protection authorizing them to operate the B-C Trains, which indicated qualified review by the regulators.

Phoenix has retained the CQA documents from the previous audits in the mine Environmental Library. The auditors took photographs of these 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

Phoenix is ☐ in substantial compliance with ☐ not in compliance with Standard of Practice 4.9

**Summarize the basis for this finding:**

Phoenix 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.

Phoenix has developed written procedures to monitor the effects of cyanide use on wildlife and groundwater quality. The monitoring programs were prepared by qualified professionals. Phoenix uses an external analytical laboratory certified for cyanide analysis. Monitoring procedures specify how and
where samples should be taken; sample containerization, preservation, labelling, handling, and shipping; chain of custody procedures; and cyanide species to be analyzed. The auditors reviewed completed examples of field sampling logs from throughout the recertification period to verify that sampling conditions were documented.

Phoenix conducts monitoring at frequencies adequate to characterize groundwater and wildlife. Groundwater samples are collected from eight point-of-compliance monitoring wells downgradient of the cyanide facilities on a quarterly basis, as verified by a spreadsheet of quarterly results. The presence of wildlife and mortalities, if any, at the tailings storage facility and reclaim pond are documented daily on inspections forms, as verified by review of completed forms. Phoenix does not monitor surface water because Phoenix operates with zero discharge of process solutions. There are no natural surface water bodies on the property or within close proximity.
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

Phoenix is
☐ in substantial compliance with
☐ not in compliance with

Summarize the basis for this finding:

Phoenix 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.

Phoenix has developed written closure plans in compliance with State of Nevada regulations that include decommissioning of cyanide equipment and facilities. The 2014 Phoenix reclamation plan considers process fluid stabilization in tailings and ponds (including cyanide solutions); collection and control of seepage; detoxification and rinsing of equipment, and closure of ponds. Phoenix has developed an implementation schedule that considers both the order and duration of closure and decommissioning activities. Phoenix has reviewed and updated the plan most recently in 2010 and 2014. Phoenix also updated its Standard Task Procedure for Cyanide Equipment Decontamination most recently in 2015.

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

☑ in full compliance with

Phoenix is
☐ in substantial compliance with
☐ not in compliance with

Summarize the basis for this finding:

Phoenix 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.

Phoenix has developed a cost estimate for full funding of third party implementation of closure and reclamation activities, including decommissioning of cyanide-related facilities. Phoenix has established an approved financial surety with the Bureau of Reclamation, Nevada State Office, of approximately

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Phoenix Mine
Name of Facility

Signature of Lead Auditor

May 2015
Project No. 1411567

May 8, 2015
Date
$511 million for complete mine closure and reclamation, an amount that exceeds the approximate cost of $36 million for decommissioning alone. Phoenix has reviewed and updated the reclamation plan and cost estimate four times since the original plan was prepared in 2003, which complies with State of Nevada requirements to update the plan at least every 3 years or when facilities change.
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

Phoenix is
☐ in substantial compliance with Standard of Practice 6.1
☐ not in compliance with

Summarize the basis for this finding:

Phoenix 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.

Phoenix has developed written procedures and plans that describe the management and operation of the cyanide facilities located in the mine. These plans and procedures cover the safe operation of the entire cyanide management. The plans and procedures have been developed for the cyanide unloading, process tasks, confined spaces, and equipment decontamination. The procedures have been updated on a regular basis and will continue to be updated as needed as changes in the process are made.

Pre-work inspections prior to cyanide unloading are completed by Phoenix in conjunction with Cyanco personnel. Also, daily inspections of all cyanide facilities and activities are conducted. These inspections cover the Reagent Area, Leach/CIP/Carbon Area, Grind/Reclaim Area, Flotation Area, Filter Press/Thickener Area, and the Tailings and Reclaim Area.

Phoenix have a Newmont Risk Opportunity and Change Management procedure that applies to all new projects and/or significant modifications (including cyanide related projects) with the potential of impacting the environment, communities, their people, processes and property. The procedures consider the involvement of the engineering, process, environmental, and health, safety, and loss prevention (HSLP) Departments, as applicable for each proposed change. The change is approved after a detailed evaluation and risk assessment. The approved change is communicated to workers and training is provided, if necessary, prior to the change implementation. The auditors reviewed completed management of change documentation for four changes that occurred during the recertification audit period to verify compliance.

Phoenix has safety meetings to provide information and refresher training to employees as well as to solicit input from employees on worker safety issues related to cyanide. Phoenix also solicits input from employees on worker safety issues through their continuous safety improvement program. The auditors
review meeting records as well as a list of suggestions/concerns from the continuous safety improvement program to verify compliance.

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

☑ in full compliance with

Phoenix is
☐ in substantial compliance with Standard of Practice 6.2
☐ not in compliance with

**Summarize the basis for this finding:**

Phoenix 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.

Phoenix monitors and maintains the proper pH to prevent the formation of HCN as recommended in their Cyanide Management Plan. Fixed HCN monitors are installed in areas of potential exposure to cyanide (i.e., ICU Tank, CIP Tank Area, Carbon Area Acid Wash Tank, Detox Area and Cold Strip Solution Tank). In addition, operators use portable HCN meters to conduct maintenance work and confined space related work. The fixed HCN monitors are outfitted with visible and audible alarms, in addition to being connected to the control panels in the plant control room. Two alarm levels have been established for the portable and fixed monitors: a low-level alarm at 4.7 ppm and a high-level alarm at 10 ppm. Low-level alarms require investigation and high-level alarms require evacuation. Phoenix maintains, tests, and calibrates the pH meters, fixed HCN meters, and portable HCN meters on a regular basis as recommended by the manufacturer.

Phoenix has posted warning signs at the doors and entryways to the plant indicating that cyanide solutions may be present, eating and smoking are allowed in designated areas only, smoking is prohibited, and hydrogen cyanide alarms are set at yellow alert (for investigation) and red alert (for evacuation). Warning signs are also posted at the tailings reclaim pond.

Showers, low-pressure eye wash stations, and dry powder fire extinguishers are located at strategic locations throughout the operation and are maintained, inspected and tested on a regular basis. Showers and eyewash stations were operational with sufficient volume and adequate pressure.

Phoenix has labelled tanks and pipelines at the plant with various types of labels indicating cyanide is present and arrows showing the direction of flow. Phoenix has also marked the tailings slurry and reclaim water lines with cyanide labels and flow direction arrows.
Phoenix makes Material Safety Data Sheets (MSDSs) in English available to all staff via the mine intranet. In addition, cyanide first aid procedures are located with each of the cyanide antidote kits. The MSDSs and first aid procedures are in English, the language of the local workforce.

Phoenix has implemented procedures that require incidents and accidents (including cyanide incidents) be investigated and evaluated to determine if its programs and procedures to protect worker health and safety and to respond to cyanide exposures are adequate or if changes are necessary. Phoenix staff stated that no cyanide exposure incidents occurred between 2012 and February 2015. In lieu of cyanide exposure incidents, the auditors reviewed an example of completed incident investigation for a non-cyanide incident to verify that procedures have been implemented as needed.

Verification was conducted by the review of pH and HCN values recorded at the cyanide areas; calibration records of the fixed and portable HCN monitors and the pH meters; inspections records of the emergency safety showers, eyewash stations and fire extinguishers; completed incident investigation report; as well as by visual observation during the site visit.

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

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

**Phoenix is**

**Summarize the basis for this finding:**

Phoenix 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.

Phoenix has water, oxygen, cyanide antidote kits, automatic external defibrillator (AED), radio and telephone in the areas where cyanide is present. Cyanide antidote kits include amyl nitrite, oxygen, and AED. The auditors confirmed that all antidote kits are stored at the correct temperature and that the antidotes have not expired. First aid equipment is inspected regularly. Verification was by visual examination and review of inspection records.

Phoenix has prepared an Emergency Response Procedure and other response procedures such as the “Hazmat Response” and “Ambulance – Emergency Vehicle Operations” Procedures for responding to cyanide exposures. Section 5.14 of the Emergency Response Procedure specifically addresses responses to cyanide exposures and cyanide releases.
Phoenix has an agreement with the Battle Mountain General Hospital and has confirmed that the staff at the hospital are aware of the potential to treat patients with cyanide exposure. The auditors reviewed a letter from the Battle Mountain General Hospital, sent to Phoenix on September 11, 2014, confirming that the hospital is prepared and qualified to treat emergency patients from Phoenix who may be exposed to/or poisoned by cyanide. Phoenix has tested the response of the hospital during the September 30, 2014 Newmont Lone Tree Mine Cyanide Drill that involved the evacuation of a cyanide exposed worker to the hospital. The auditors reviewed the letter sent by the hospital as well as the mock drill report (dated September 30, 2014) to verify compliance.

Phoenix has its own onsite capability (equipment and trained staff) to provide first aid to workers exposed to cyanide. Phoenix maintains two ambulances (one near the plant and the other at the pit), one fire truck, one heavy rescue vehicle, one Hazmat trailer and four cyanide antidote kits (including oxygen and AED). In addition, Phoenix has a trained Emergency Response Team (ERT) comprised of members from all functional areas of the mine, including areas where cyanide is used. Certifications for the team members include Emergency Medical Technician, First Responders, and Hazmat Responders. First Responders and Hazmat Responders are available on all shifts. Phoenix conducts cyanide exposure and release mock drills on a regular basis to test the relevant emergency procedures. The auditors reviewed training certificates and training records of the ERT members, the rotation schedule for the ERT and the mock drill reports to verify compliance.
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

Phoenix is
☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 7.1

Summarize the basis for this finding:
Phoenix is in FULL COMPLIANCE with Standard of Practice 7.1 which requires that the site prepare detailed emergency response plans for potential cyanide releases.

Phoenix has developed plans and procedures that address emergency response to potential accidental releases of cyanide. Phoenix’s plans contain procedures for potential scenarios such as: 1) cyanide intoxication; 2) accidents during cyanide transportation; 3) release during unloading; 4) release of cyanide during fires and explosions; 5) pipe, valve or tank ruptures; 6) overtopping of ponds; 7) electrical power outages and pump failures; 8) uncontrolled seepage; 9) failure of the cyanide destruction system; 10) failure of the tailings storage facility; 11) cyanide spill control and clean-up; and 12) decontamination and emergency evacuation. The procedures address specific response actions for clearing site personnel from the area of exposure; use of cyanide antidotes and first aid measures for cyanide exposure; decontamination procedures; control of releases at their source and containment; as well as the assessment, mitigation and future prevention of releases. Verification was by review of these documents and interview with safety and process personnel.

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

☑ in full compliance with

Phoenix is
☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 7.2

Summarize the basis for this finding:
Phoenix is in FULL COMPLIANCE with Standard of Practice 7.2 which requires that the site involve site personnel and stakeholders in the planning process.

Phoenix staff are involved in cyanide emergency response planning via safety meetings, training sessions and mock drills. There are no communities adjacent to the mine or offsite stakeholders with a role in
response to onsite cyanide emergencies, but Phoenix has made the nearest community (i.e., Battle Mountain) as well as offsite stakeholders aware of the nature of risks from accidental cyanide releases via Phoenix staff involvement in the Lander County Local Emergency Planning Committee. Phoenix emergency response staff are members of the Lander County Local Emergency Planning Committee that meets regularly in Battle Mountain. Other members of this committee include representatives from the Battle Mountain General Hospital, Battle Mountain Fire Department, Sheriff, Lander County Ambulance and other local agencies. During these meetings emergency response procedures are discussed. In addition, Newmont Hazmat team participated in a Hazmat vehicle accident mock drill organized by the Lander County Local Emergency Planning Committee in September 2013 that also included the participation of the Battle Mountain General Hospital. The auditors reviewed examples of meeting minutes from 2012-2014 as well as records from the September 2013 mock drill to verify compliance.

Phoenix has not designated a role for offsite responders in planning or response to cyanide emergencies except for the Battle Mountain General Hospital. Phoenix has an agreement with the Battle Mountain General Hospital that has confirmed that the hospital is aware of the potential to treat patients with cyanide exposure. The auditors reviewed a letter from the Battle Mountain General Hospital, sent to Phoenix in 2014, confirming that the hospital is prepared and qualified to treat emergency patients from Phoenix who may be exposed to/or poisoned by cyanide. Phoenix has tested the response of the hospital during the September 2014 Newmont Lone Tree Mine Cyanide Drill that involved the evacuation of a cyanide exposed worker to the hospital. The auditors reviewed the mock drill report to verify compliance.

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

- ☑ in full compliance with

Phoenix is

- ☐ in substantial compliance with
- ☐ not in compliance with

**Standard of Practice 7.3**

**Summarize the basis for this finding:**

Phoenix 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.

Phoenix has committed in their emergency response plans and procedures the necessary emergency response equipment and first aid to manage cyanide incidents at the operation and to coordinate transportation to the local hospital for further treatment if necessary. The Phoenix Emergency Response Procedure describes the roles and responsibilities for the emergency response coordinators (including the primary and alternate coordinators).
Phoenix has identified its ERT and emergency coordinators, and has an updated list of them including their name and contact information in Phoenix Emergency Response Procedure and the 2015 Mine Rescue Schedule. The Phoenix Emergency Response Procedure and the response equipment inspection forms list the locations of the emergency response vehicles and equipment. All emergency vehicles, equipment, and supplies are inspected monthly. The auditors reviewed completed monthly response equipment inspection forms for the recertification period to verify compliance.

Phoenix has not designated a role for offsite responders in planning or response to cyanide emergencies except for the Battle Mountain General Hospital. Phoenix has an agreement with the Battle Mountain General Hospital that has confirmed that the hospital is aware of the potential to treat patients with cyanide exposure. The auditors reviewed a letter from the Battle Mountain General Hospital, sent to Phoenix in 2014, confirming that the hospital is prepared and qualified to treat emergency patients from Phoenix who may be exposed to/or poisoned by cyanide. Phoenix has tested the response of the hospital during the September 2014 Newmont Lone Tree Mine Cyanide Drill that involved the evacuation of a cyanide exposed worker to the hospital. The auditors reviewed the mock drill report to verify compliance.

**Standard of Practice 7.4:** Develop procedures for internal and external emergency notification and reporting.

☒ in full compliance with

Phoenix is ☐ in substantial compliance with ☐ not in compliance with

**Standard of Practice 7.4**

**Summarize the basis for this finding:**

Phoenix 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 and operating plans detail the procedures including current contact telephone numbers for internal (i.e., Phoenix management and emergency response coordinators) and external emergency notification (i.e., Cyanco emergency response service, local hospitals, regulatory agencies, and other local entities and the media).

**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

Phoenix is ☐ in substantial compliance with ☐ not in compliance with

**Standard of Practice 7.5**
Summarize the basis for this finding:
Phoenix 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.

Phoenix has written procedures to contain, recover and clean up liquid cyanide spills. These procedures are described in the Phoenix Mine Operating Plan. Procedures require that an engineered containment structures such as berms or dikes or other immediate measures will be taken to stop the release until the necessary equipment and personnel can be mobilized to clean up the release. Soil, sand, or other absorbent material may be used to absorb the spill. Cyanide releases will be disposed of on the heap leach pad, in the event pond, in the tailings facility or returned to the leaching circuit, depending upon the physical nature of the release. Spilled cyanide solution within the process plant and mill building will be returned to the mill leaching circuit or to the recovery process circuit from the floor sumps. Contaminated soil or other contaminated media will be placed on the heap leach pad or in the tailings impoundment.

The Phoenix Mine Operating Plan requires the monitoring of the affected area after cleaning. The Remediation of Cyanide Contaminated Soils Procedure details on exactly how to accomplish this monitoring including how to collect representative samples; sampling equipment; measures to prevent cross-contamination; sampling patterns (e.g., grid, perimeter); location coordinates; sample handling and shipping; and required laboratory analysis. The Phoenix Emergency Response Procedure and the Remediation of Cyanide Contaminated Soils Procedure describe what final cyanide concentration will be acceptable in residual soil as evidence that the release has been completely cleaned up.

Provision of an alternative drinking water supply is inapplicable as there are no communities, residences, or water supply infrastructure in the vicinity of the Phoenix Mine.

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

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

**Phoenix is** Standard of Practice 7.6

Summarize the basis for this finding:
Phoenix 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.

Phoenix evaluates and updates its cyanide related emergency response procedures on a regular basis and following mock drills and actual incidents as needed. Phoenix conducts mock emergency drills and
tabletop exercises based on likely cyanide release/exposure scenarios to test the response procedure, and incorporates lessons learned from the drills into its response planning. Mock drills are conducted periodically. The auditors reviewed documentation related to the cyanide-related mock drills and tabletop exercises conducted by Phoenix, as well as revisions made to Phoenix Emergency Response Procedure in order to verify compliance.
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

Phoenix is

Summarize the basis for this finding:

Phoenix 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.

Phoenix provides initial training and refresher training to all employees and contractors, with the potential to be exposed to cyanide, on cyanide hazard recognition, cyanide first aid treatment, and spill response. The training is provided as part of the Mine Safety and Health Administration (MSHA) New Hire Training and via a Cyanide Code specific process training (the process access training module). Phoenix retains all cyanide training records including test results demonstrating an understanding of the training. Verification was by interview with process and training personnel, random interviews to operators and review of employee training materials and records from throughout the recertification period.

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

Phoenix is

Summarize the basis for this finding:

Phoenix 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.

Phoenix trains its staff to perform their normal production tasks, including cyanide unloading, production, and maintenance, with minimum risk to worker health and safety and in a manner that prevents unplanned cyanide releases and exposures. The task training is organized by process circuits and levels. Training topics related to cyanide exposures and releases are included in each circuit and level. Training
methods include: on-the-job training; review of plant operating manuals; instruction in standard task and operating procedures; task observation by a competent person; and written exams. Training is tracked by a checklist that itemizes each topic and requires sign-off by the trainer. The trainer must be a staff member already qualified on the task or a shift supervisor. The shift supervisor and training coordinator approve the checklist when all training is complete. Only then can an employee perform the task unsupervised. The auditors reviewed records from throughout the recertification period and interviewed operators to verify compliance.

**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

**Standard of Practice 8.3**

**Summarize the basis for this finding:**

Phoenix 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.

Personnel responsible for cyanide unloading, processing and maintenance are trained in procedures to be followed if cyanide is released, as well as in decontamination and first aid procedures. This training is provided as part of the annual refresher cyanide safety training, the initial task training (provided with the process circuit checklists) and the annual environmental refresher training. Training covers spill and release definition, release response, cyanide spill cleanup, required personal protective equipment (PPE), release reporting, spilled material disposal, HCN gas release, response to cyanide alarms, use of cyanide antidote kits, use of portable HCN monitors, use of fire extinguishers, shower and eyewashes, proper pH and HCN levels, cyanide poisoning (routes of exposure), poisoning symptoms, first aid for cyanide overexposure, and decontamination procedures. Refresher training in cyanide releases and exposures are provided on an annual basis. Verification included review of training materials, refresher training records and interviews with environmental and training personnel.

Phoenix emergency coordinators and the ERT are trained in the procedures described in the Phoenix Emergency Response Procedure. In addition, the ERT has received specialized training in first aid related to cyanide, firefighting, hazardous material emergencies, advanced first aid, vehicle and equipment rescue, rope rescue, incidents command, and confined space rescue. This training includes the use of necessary response equipment.

Phoenix has not designated a role for offsite responders in planning or response to cyanide emergencies except for the Battle Mountain General Hospital. Phoenix has an agreement with the Battle Mountain
General Hospital that has confirmed that the hospital is aware of the potential to treat patients with cyanide exposure. The auditors reviewed a letter from the Battle Mountain General Hospital, sent to Phoenix in 2014, confirming that the hospital is prepared and qualified to treat emergency patients from Phoenix who may be exposed to/or poisoned by cyanide. Phoenix has tested the response of the hospital during the September 2014 Newmont Lone Tree Mine Cyanide Drill that involved the evacuation of a cyanide exposed worker to the hospital. The auditors reviewed the mock drill report to verify compliance.

Phoenix conducts cyanide related mock drills based on likely release/exposure scenarios. Mock drills are evaluated from a training perspective to determine if personnel have knowledge and skills required for effective response.

Training records are retained and include the names of the employee and the trainer, the date of training; the topics covered, and test results demonstrating an understanding of the training materials. Verification was through interview with training personnel and review of training records.
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

Phoenix is ☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 9.1

Summarize the basis for this finding:
Phoenix is in FULL COMPLIANCE with Standard of Practice 9.1 which requires that the site provide stakeholders the opportunity to communicate issues of concern.

Phoenix provides electronic and face-to-face opportunities to communicate issues of concern. Stakeholders and the public may contact Phoenix via phone numbers and e-mail addresses advertised on websites and in local newspapers and visitors centers. Phoenix hosts community breakfasts, mine tours, workshops, and a booth at an annual health fair. Public meetings are held when required for new or renewing permits. Phoenix staff participate on various local committees, such as the Chamber of Commerce, Local Emergency Planning Commission, and the Nevada State Emergency Response Commission, thus allowing an opportunity for stakeholder input. Phoenix maintains an issues register to ensure stakeholder and public concerns are tracked and responded to. In 2014, Phoenix implemented the software “Staketracker” to improve their management of all public contacts.

Standard of Practice 9.2: Initiate dialogue describing cyanide management procedures and responsively address identified concerns.
☑ in full compliance with

Phoenix is ☐ in substantial compliance with ☐ not in compliance with

Standard of Practice 9.2

Summarize the basis for this finding:
Phoenix 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.

Phoenix initiates face-to-face interactions with stakeholders and responds to concerns. Phoenix hosts community breakfasts, mine tours, workshops, and a booth at a local health fair where cyanide-related information is disseminated orally, as well as via handouts and presentations. Public meetings are held when required for new or renewing permits. Phoenix staff participate on local committees, such as the
Local Emergency Planning Commission and the Nevada State Emergency Response Commission, thus allowing an opportunity to give presentations with cyanide-related information. Phoenix tracks issues raised by stakeholders and their resolution using a spreadsheet (in 2012 and 2013) and the software program “Staketracker” (from 2014 on).

**Standard of Practice 9.3:** Make appropriate operational and environmental information regarding cyanide available to stakeholders.

☑ in full compliance with

Phoenix is □ in substantial compliance with Standard of Practice 9.3

☐ not in compliance with

**Summarize the basis for this finding:**

Phoenix 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.

Phoenix has developed handouts, presentations, and videos that have been distributed to the public and stakeholders via meetings, tours, workshops, community breakfasts, and a website. In addition, fact sheets associated with permits are available from the Nevada Department of Environmental Protection. The majority of the local population is literate; nonetheless, Phoenix distributes a video on how gold is produced that provides information visually and orally. Information is also presented orally during tours and meetings. Phoenix makes information available regarding releases and exposures via their website “Beyond the Mine”. This website reported no cyanide-related releases or exposures for 2012 and 2013. However, this website showed that seven cyanide-related spills were reported to regulatory authorities in 2014. All were small and did not leave the site. The auditors do not consider them to be significant cyanide releases.
ICMI CERTIFICATION SUMMARY REPORT

Report Signature Page

GOLDER ASSOCIATES INC.

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Independent Auditor for Standard of Practice 4.3 and portions of Standard of Practice 4.8

Date: May 8, 2015
KJ/SW/rt

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Phoenix Mine
Name of Facility

May 2015
Project No. 1411567

Signature of Lead Auditor

May 8, 2015
Date
At Golder Associates we strive to be the most respected global group of companies specialising in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organisational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.