ICMI Cyanide Code Gold Mining Recertification Audit

Summary Audit Report

Nevada Gold Mines, Phoenix Complex Nevada, USA

Submitted to:
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USA

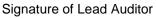
2021 Audit Cycle

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Mining Operation: Phoenix Complex

Mine Owner: Barrick Gold Corporation

Mine Operator: Nevada Gold Mines

Name of Responsible Manager: Julius Stieger, General Manager

Address and Contact Information:

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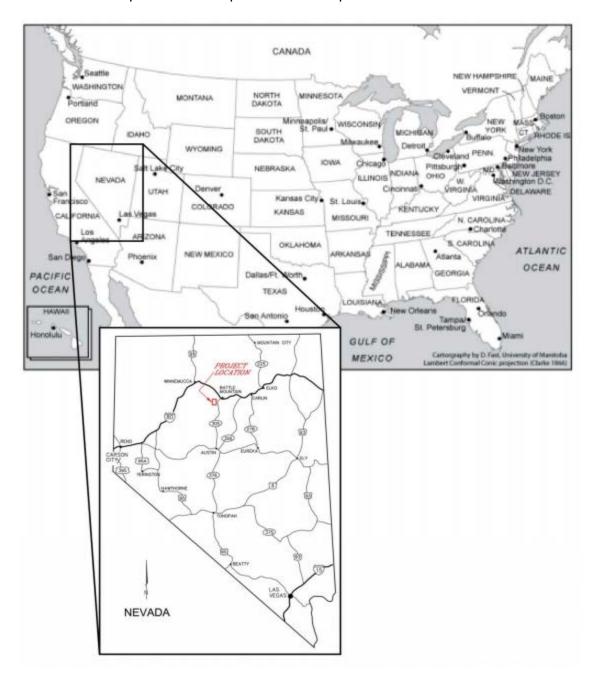
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Location and description of the operation

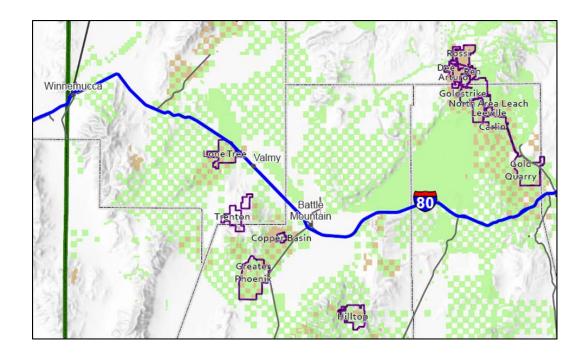
The Phoenix Complex location is presented in the pictures below



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Nevada Gold Mines (NGM) operates the Phoenix Complex consisting of the Phoenix and Lone Tree Mines. The two mines operate in conjunction with each other sharing staff and resources.

Phoenix Mine

The Phoenix Mine is located in Lander County, Nevada approximately 12 miles to the southwest of the community of Battle Mountain via Interstate Highway 80 and Nevada State Highway 305. It includes the Phoenix, Midas, Reona, and Iron Canyon open pits and excavation of the existing Northeast Extension, Tomboy, Midas, and Fortitude gold ore stockpiles.

The Phoenix Mill, constructed in 2005, is designed for the beneficiation of 35,000 tons per day 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 leach and carbon-in-pulp (CIP) circuit for additional gold and silver recovery. Gravity concentrates are diverted to an intensive cyanidation unit (ICU) for gold recovery.

Cyanide and lime are added to the CIP leach tanks for precious metal dissolution. 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 an ammonium bisulfite (ABS) cyanide destruction circuit prior to discharge to the tailings storage facility (TSF). Loaded carbon is transferred from the mill CIP leach circuit by pipeline.

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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. 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 the 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 Nevada Gold Mines facilities at Turquoise Ridge or the Carlin complex for refining of precious metals.

Tailing's slurry is conveyed by pump from the Phoenix Mill to the 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.

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" 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 an underdrain system. The southern portion of the historic impoundment has been covered for closure.

The Phoenix cyanide facilities are largely unchanged from the previous audits. However, there are two new or changed cyanide facilities for this audit cycle:

- Completion of Stage 6 and RE 4953 of the tailing's impoundment.
- Tailings Delivery modification of the tailings piping at the mill including additional secondary containment.

The Reona Heap Leach continues to be permanently inactive and no longer receives process solution, as was the case during the previous audits. It has been demonstrated that the concentration of weak acid dissociable (WAD) cyanide in the residual solution is continuously below 0.5 mg/L and the facility is not considered a "cyanide facility".

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Lone Tree Mine

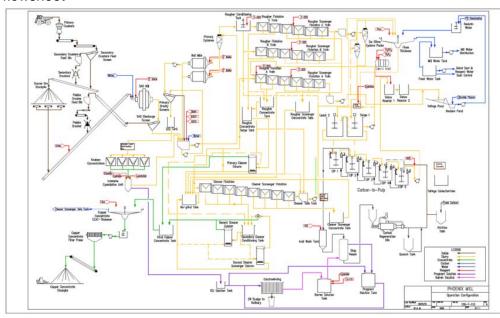
The Lone Tree Mine (Lone Tree) is located in Humboldt County, Nevada approximately 30 miles to the west of the community of Battle Mountain and immediately to the south of Interstate 80. Nevada Gold Mines operates the Lone Tree Mine in conjunction with the nearby Phoenix Mine.

The Lone Tree Mine consists of reclaimed overburden and waste rock stockpiles; an inactive mill; a closed but not yet reclaimed TSF with an active underdrain collection pond; an inactive open pit with a pit lake; an active Heap Leach Facility (HLF) with seven phases and three ponds; a Carbon in Column (CIC) building with three inactive trains; a separate outdoor CIC train; a precipitation circuit; an offload for liquid cyanide; administration building; an assay lab; maintenance facilities; and access and haul roads. The Hydro-Jex system to inject barren solution into the HLF for re-leaching is no longer in use. Carbon with gold values is loaded into trucks at the CIC building for transport to the Phoenix Mine for additional processing; no stripping or refining occurs at Lone Tree Mine.

The Lone Tree Mine is finished re-locating leached ore from certain phases of the HLF and placing it on other phases as of 2019 and is only re-leaching existing material. It will also be adding new ore from the nearby Brooks Expansion in 2021. Mining at the Brooks Expansion started in 2016 and is scheduled to continue for a year. All of the active cyanide facilities are located near the "HLF."

The Phoenix Complex ore processing flowsheets are presented below:

Phoenix flowsheet

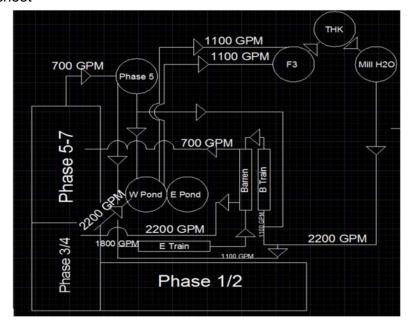


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June 17th, 2021



Lone Tree flowsheet



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Auditor's Finding

The International Cyanide Management Institute (ICMI) approved Audit Team verified that the Phoenix Complex operation is in FULL COMPLIANCE with ICMI Cyanide Code requirements for Gold Mining operations.

The Phoenix Complex has experienced zero significant cyanide incidents during this 3year recertification audit cycle.

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

Auditor's Attestation

Audit Company:	SmartAccEss Socio Environmental Consulting, LLC	
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Date(s) of Audit:	June 14 th – 17 th , 2021	

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

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

<u>Phoenix Complex</u>

Name of Operations

Signature of Lead Auditor

Date

Nevada Gold Mines -Phoenix Complex

Signature of Lead Auditor



SUMMARY AUDIT REPORT

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

Standard of Practice

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

The operation is: ■ in full compliance

□ in substantial compliance

□ not in compliance with Standard of Practice 1.1

Discuss the basis for this Finding/Deficiencies Identified:

The operation's contract with the cyanide producer (Cyanco) does not require that cyanide be produced from a facility that has been certified under the Code. However, cyanide was only purchased from Cyanco during the recertification period and Cyanco maintained Cyanide Code certification during this period, as verified by review of the ICMI website.

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

Standards of Practice

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

The operation is: ■ in full compliance

□ in substantial compliance

□ not in compliance with Standard of Practice 2.1

Discuss the basis for the Finding/Deficiencies Identified:

Written agreements for transportation requirements were in place under the supply contract (i.e. Cyanco) during this International Cyanide Management Code (ICMC) audit. The cyanide purchase contract includes the cyanide manufacturer's (seller) responsibility on delivering the product to the mine's site using only ICMI certified transporters.

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The seller's transportation supply chain is currently certified under the Cyanide Code. The supply chain includes truck transportation by TransWood from the Winnemucca Terminal to Lone Tree and Phoenix.

There are no ports of entry associated with these sites; however, the contract includes Seller's responsibility for storage at their facility and subsequent loading and unloading at the operation.

Safety and maintenance of the means of transportation throughout transport is addressed as seller's responsibility in the contracts, as well as for task and safety training and emergency response for transporters throughout transport. Security during transport is not addressed in the contract, but it is addressed as part of TransWood's ICMI certification.

The current contract with Cyanco does not require addition of colorant dye at the Cyanco facility; however, as Cyanco is certified under the Code, the addition of colorant dye does take place at the point of manufacture and is present in the product delivered to site.

2.2 Require that cyanide transporters implement appropriate emergency response plans and capabilities, and employ adequate measures for cyanide management.

The operation is: ■ in full compliance

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

Discuss the basis for the Finding/Deficiencies Identified:

The contract states the seller is responsible for all aspects of transportation of cyanide to the Phoenix Complex, as well as cyanide production. The contract does not commit the Seller to maintaining ICMC certification and signatory status; however, the cyanide producer and transporter are certified under the Code.

The sole cyanide transporter for the Phoenix Complex is certified under the Code. Cyanco's supply chain consists of truck transportation of liquid sodium cyanide from the Winnemucca Terminal directly to the mines. TransWood is certified in full compliance under the Code, achieving initial certification on October 11, 2006. TransWood was recertified in 2010, 2013, 2016, and most recently on December 10, 2019.

No interim storage takes place between the production facility and the storage tanks at the mine site. Bills of Lading for cyanide deliveries show that the cyanide was produced by Cyanco and transported by TransWood to the Phoenix Complex, and TransWood is the sole transporter of cyanide to the site.

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

Standards of Practice

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

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 3.1

Discuss the basis for this Finding/Deficiencies Identified:

The Phoenix Complex has cyanide offloading and storage facilities at both the Phoenix Mine and the Lone Tree Mine that were designed and constructed in accordance with sound and accepted engineering practices. This was verified during the initial certification audits for the Phoenix and Lone Tree Mines. No changes or modifications have been made since the initial audit and subsequence recertification audits.

The field component of the audit confirms that the cyanide tank areas at both mines were located next to the mills on concrete hardstanding maintained in good condition. Cyanide tanks were located within containment concrete berms, which are sized to contain at least 110% volume of the tank. The cyanide tank areas are also subject to daily inspections at shift start to detect any obvious releases or failure in containment.

The Phoenix and Lone Tree Mines offloading and storage facilities for liquid cyanide are located outside of the mills with adequate ventilation. These facilities remain substantially unchanged since the initial certification audits and subsequent recertification audits. These facilities are not located near any offices or places where workers might congregate. Appropriate warning signage is placed at these facilities to alert operators of cyanide presence and hazards associated with it. Although the offloading and storage facilities are not within their own fenced areas, they are located within the fenced and secured areas of the mine where public access is controlled. The Phoenix Complex is located in an arid area and there is no surface water in the vicinity.

The Complex's offload areas have concrete pads for the trucks carrying liquid cyanide. These pads are constructed with cast-in-place reinforced concrete to prevent seepage to the subsurface. They are sloped to sumps to collect any potential spillage during offloading. These areas are inspected daily to detect any deficiencies. The offloading pads have capacity for approximately 5,000 gallons that would contain the content of most cyanide deliveries to the

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mines. In the event of spillage onto the offload pads, whether a partial load or a load exceeding 5,000 gallons, the operations would implement emergency response procedures and corresponding remediation measures. The checklist for liquid cyanide offloading includes an item to ensure that the sumps do not have presence of water prior to initiate offloading activities.

Both the Phoenix and Lone Tree Mines have storage tanks for liquid cyanide. There are ultrasonic level indicators and high-level alarms installed on both tanks. These levels are continuously monitored from the mill control room. Arrangements remain unchanged since the 2018 recertification audit. The offload standard procedure is designed prevent overfilling the tanks. The operators verify that the tank levels are low enough to receive the expected delivery. In addition, the cyanide supplier, Cyanco, has remote telemetry monitoring of the cyanide tank levels to track cyanide usage and inventory, allowing them to dispatch cyanide loads when needed. The cyanide delivery driver is required to verify the tank levels prior to offloading. Tank levels before and after cyanide offloading are documented in the Cyanco's bills of lading. The reliability and the functionality of the level alarms are maintained through checks of tank level, checks for the offloads, and routine testing and monitoring by the operations. These sensors are included in the preventive maintenance program for both Phoenix and Lone Tree mines and are tested on a monthly basis. Immediate attention and repair is given for an improper functioning high-level alarm.

The cyanide storage tank areas remain substantially unchanged since the initial certification audits and subsequent recertification audits. Cyanide storage tanks are contained within concrete berms with good condition concrete flooring that are an adequate barrier to prevent seepage to the subsurface. The bermed containment areas are sized to contain 110% of the tank volume and have been confirmed previously as part of engineering specification checks. They are equipped with sumps, pumps, and automatic controls to return liquids to the process circuits. Cyanide storage tanks are located away from other products and no smoking is allowed

The cyanide storage areas at both mines are located outside of the mills, and the tanks are vented on top. Both tanks are insulated and heat traced, and there are fixed HCN monitors and windsocks to indicate wind direction. Build-up of hydrogen cyanide gas is unlikely to occur. At both mines there are tanks of caustic solution within the secondary containment of the cyanide storage tanks; however, the caustic solution is compatible with cyanide. At the Phoenix mine, the cyanide tank containment is located adjacent to the hydrochloric acid containment, but is separated by concrete walls with separate sump systems.

3.2 Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

The operation is: ■ in full compliance

□ in substantial compliance

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□ not in compliance with Standard of Practice 3.2

Discuss the basis for this Finding/Deficiencies Identified:

The Phoenix Complex only uses liquid cyanide delivered in tanker trucks; no drums or wooden crates are involved. Cyanco/TransWood's offloading procedure requires the driver to monitor and control the entire offload operation. The procedure also details responses to any leaks or spillage. At the end of the offload, the driver is required to inspect the truck by walking completely around the tractor-trailer before moving it. If there is any spillage or residue on the outside of the truck, offload piping, or pad, the driver washes it off where the material is collected in the offloading pad sump.

In addition, the Phoenix Complex's Standard Operating Procedure (SOP or procedure) "Offloading Bulk Reagent" specifies that Phoenix personnel shall monitor the connection / disconnection of the offloading process and supplement the observation process with video cameras when they are available, as is the case at the Phoenix mine. The procedure also indicates that any spilled product (on containment) is to be noted and cleaned up immediately, as appropriate, and to report a product release (off containment) to the area supervisors and environmental departments to determine appropriate clean up and disposal. Any spills or leaks related to a cyanide offload and onto the pads are captured in sumps and pumped out with portable pumps to the adjacent secondary containments for the cyanide storage tanks. The sumps in the secondary containments have pumps and automatic controls to return liquids to the process circuits. Any spills captured in the offload sumps would be manually pumped following the procedures outlined in the environmental spill response plans for the respective mine.

The Phoenix Complex has SOP "Offloading Bulk Reagents" that outlines the requirements for inspection, observation and offloading of liquid cyanide; as well as the operation and function of valves, pumps and various interlocks within the cyanide offloading process. The Phoenix Complex also has a Reagent Offloading Checklist that is used by the mill personnel to inspect and monitor the offloads. The checklist includes inspection of emergency showers and eye wash stations, HCN monitors, and to ensure that the sumps do not have presence of water prior to initiate offloading activities. In addition, Cyanco/TransWood's offloading procedure "Sodium Cyanide Delivery SOP Cyanco" describes safe practices to complete the offload. Both the transporter and operator have to confirm that the storage tank has sufficient capacity for the offload. The bills of lading document the pH of the liquid cyanide and tank levels prior and after offloading. The operators sign off the form to authorize the offload. The operators have radios for communication with the control rooms in the event of an emergency. Phoenix Complex operators are familiar with the Cyanco/TransWood delivery and emergency shut off procedures.

SOP "Offloading Bulk Reagents" require operators to use the appropriate PPE during offloading activities. These include hard toe shoes/rubber boots with ankle coverage, safety glasses with side shields, rubber gloves, rubber chemical suit, high visibility vest, approved respirator, goggles

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or face shield, and hardhat. The SOP also specifies that Phoenix personnel shall monitor the connection/disconnection of the offloading process that is conducted by the Cyanco/TransWood driver, and supplement the observation process with video cameras when they are available, as is the case at the Phoenix mine. Offloading operations and cyanide alarms are also monitored remotely from the Mill Control Room. The liquid cyanide already comes with a pink colorant dye. A cyanide offloading event was observed during the audit. The review indicated that the Phoenix Complex has appropriate SOPs and practices to handle and offload cyanide solutions in a safe manner.

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

Standards of Practice

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

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 4.1

Discuss the basis for the Finding/Deficiencies Identified:

As part of the merger of Barrick and Newmont to form Nevada Gold Mines, which is the operator of the Phoenix Complex, many documents and procedures are in a review and standardization process. As such, there is currently no defined coding for documents (SOPs, Manuals, Plans, Guidelines, others) related to cyanide management.

The Water Pollution Control Permits (WPCP) for the two mines describe operating requirements. These permits authorized the Complex to construct, operate, and close the operations in accordance with the requirements and conditions of the permit, which includes specific requirements for the cyanide facilities. These requirements and conditions are based on information provided by the operations to the Nevada Department of Environmental Protection (NDEP), describing the facilities and operating methods. Additionally there are manuals, operating plans, and SOPs for the safe operation of cyanide facilities; some of them serving both operations and others specifically for the Phoenix Mine or the Lone Tree Mine. SOPs were reviewed and found to be sufficiently detailed to enable safe operation.

The Phoenix Complex has operating manuals, plans and permits documentation in place that include critical assumptions and parameters for the safe operation of cyanide facilities. The Lone Tree WPCP, dated December 11 2020, describes regulatory requirements, such as regular pumping and monitoring of the leak detection and collection systems, groundwater monitoring,

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and a minimum 2 feet of freeboard for the process ponds. The Phoenix TSF Operation, Maintenance and Surveillance (OMS) Manual also indicates a minimum freeboard of 3 feet for the supernatant pond and 2 feet for the reclaim pond, and consideration of the 100-year, 24-hour storm event for freeboard calculations. The Phoenix Cyanide Management Plan indicates that the target WAD cyanide concentration range in treated tailings is 25 – 50 ppm. The Lone Tree Cyanide Management Plan indicates that particular consideration shall be given to limit the level of WAD cyanide to 25 mg/l or less in open waters. The Phoenix Complex does not discharge any solution containing cyanide to the environment, including surface water.

The Phoenix complex has implemented an inspection program with frequencies that varies from daily, weekly, monthly, and quarterly for the Reagents area, Flotation, Leach/CIP/carbon area, tailings facilities and heap leach facilities. Inspections are conducted by both Process and Environmental personnel following requirements specified in permits and internal documents (i.e. OMS TSF Manual, Cyanide Management Plans). The inspection program describes the frequency, responsible department, and required documentation. The inspections are documented using forms that include the name of the inspector, date, and a comments section where deficiencies are noted. Deficiency notifications are sent to maintenance planners where they schedule corrective maintenance via work orders. The inspection program is sufficient to assure and document that the systems are operating within design parameters. Workplace inspections conducted every shift by Process operators include safety equipment, piping, containments, process equipment, tailings impoundment, tailings pipeline, reclaim pond, and heap leach facilities. Identified deficiencies are noted and corrected or reported to supervision for corrective action. Inspections conducted by Environmental include Leak Collection Recovery Systems (LCRS), tailing piezometers and supernatant depth on a weekly basis; distance from embankment on a monthly basis; and water quality of process solution and reclaim solution on a quarterly basis. The auditors verified inspection records for the last 3 years and found them to be complete.

The Maintenance area has a preventive maintenance program for pumps, pipelines, valves, flow meters, gauges, level sensors, pH meters, sump pumps, filters, HCN sensors, tanks and cyanide facilities in general. The preventive maintenance program is used to perform necessary maintenance and inspect the integrity of process equipment, piping and tanks, according to a maintenance program and every time it is needed to keep equipment and facilities working properly. A preventative maintenance program has been implemented to ensure equipment and devices function properly for safe cyanide management. The SAP (Strategic Enterprise Management) system is used for identifying, assigning responsibility, scheduling, and tracking the completion of the preventive maintenance activities. Work orders generated from inspection forms are entered in the system, including assigned priority.

The Phoenix Complex has a corporate-wide procedure Management of Change (MoC) that includes the identification and review of the proposed changes; identification of relevant stakeholders for the project, analysis and evaluation of the changes by a multidisciplinary team including health, safety and environmental aspects; sign off by all areas that participated in the

Nevada Gold Mines - Phoenix Complex

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evaluation, approval, and implementation of the change. The procedure requires Environmental and Safety personnel to review and sign-off on proposed cyanide-related process changes and modifications, prior to implementation of the changes and modifications. There is a MoC App in the SharePoint platform to complete and manage MoC processes. MoC processes related to cyanide management conducted for the recertification period include Cyanide addition to CIP#1 tank and Cyanide antidote kits (addition of cyanokit)

The Mine Operating Plans for both Phoenix and Lone Tree mines describe contingency actions for numerous situations, such as leaks, spills, and releases; impoundment and slope failures; earthquakes; seasonal and temporary closure. In addition, the Phoenix TSF Operation, Maintenance, and Surveillance (OMS) Manual includes abnormal operating conditions and emergency response activities such as, leakage or failure in the tailings delivery and reclaim return lines, reclaim pond leakage due to liner damage or failure, excessive supernatant pond limits, extreme climatic events, power failure, and seepage or slope instability. Also the Manual covers for seasonal, temporary and tentative permanent closure.

Tanks holding cyanide solutions are inspected for signs of corrosion, leakage and general deficiencies. Inspection reports for the last 3 years were sampled and found to be complete. Nondestructive tests are usually conducted annually for tanks holding cyanide solutions including CIL #1 and #2, CIP tanks #1 to #5, and cyanide storage tanks. The auditors reviewed evidences of these tests for 2018 and 2019. In 2020 these tests were not conducted due to COVID-19 restrictions. For 2021, there is a work order in place to complete these tests.

Secondary containments configuration remain substantially unchanged from the previous recertification audits at both mines. None of the containment areas has any drains to the adjacent land surface. At Phoenix, inspection forms in the reagents area include conditions of containments and sumps. Daily inspection forms at the Leach/CIP/Carbon areas include conditions of tanks, pipelines, sumps, valves, and secondary containments.

The HLF at Lone Tree is inspected on a daily basis including leach pads and process solution ponds. The LCRS from the East and West solution ponds are inspected every week by TSF operators and monitored by Environmental personnel on a weekly basis for flow and cyanide concentrations. Flows pumped by the LCRS exceeded permit conditions for the second quarter of 2020 and for the annual report. Lone Tree conducted repairs in the pond liner on the second half of 2020 which ultimately decreased the pumped flow within permit levels. Water quality data indicate that there is cyanide concentrations detected between the liners. This information is reported on a regular basis to the Mill personnel so corrective actions can be implemented. At Phoenix, the LCRS located at the reclaim pond reported a negligible amount of flow per day for the recertification period. No cyanide values were detected.

Pipelines, pumps and valves in the mill are inspected every shift by process operators and by the Maintenance area as part of their preventive maintenance program. Inspection forms for the mill, tailing and heap leach facilities were verified for the inclusion of items related to deterioration

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and leakage of pipes, pumps and valves, and ponding on top of the leach pad. The TSF at Phoenix and HLF at Lone Tree are inspected daily for critical aspects including integrity of surface water diversions and available freeboard. Historical freeboard for the last 3 years at both the tailing facilities and heap leach ponds were reviewed and verified that they were managed according to their design criteria.

Records of inspections are retained and were reviewed by the auditors. The inspections are documented and include date of the inspection, the name of the inspector and observed deficiencies. These corrective actions are managed using the SAP maintenance management system, where work orders are tracked, prioritized, planned and closed. The auditors verified that corrective actions related to cyanide facilities were prioritized for prompt implementation.

The Phoenix Mine has two diesel generators to run the mill, both of them with 500-kilowatt capacity. In the event of a power outage, these generators would run the control room, agitators, chillers, and other critical facilities at the plant. The Lone Tree Mine has a fixed generator with a capacity of 1000 kilowatts located at the CIC Plant. This generator will operate critical pumps and equipment at the CIC Plant. These generators are test run and maintained on a monthly basis. The Phoenix Complex provided examples of preventive maintenance records for the backup power generators for the last three years. A review of these records, confirmed that the generators are checked on a monthly basis for fuel level, lighting, heating and are also start tested. This inspection would trigger a corrective maintenance work order if required.

4.2 Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 4.2

Discuss the basis for this Finding/Deficiencies Identified:

Cyanide concentration of the process solution is dictated by metallurgy and mineralogy. There is presence of cyanide soluble copper in the ore which needs to be considered in the cyanide addition rates. The Phoenix mill receives ore from different pits and the presence of copper is variable. The main control implemented to control cyanide addition rates is to blend the ore from the different pits with the goal of having no more than 30% of cyanide soluble copper entering the process. To control cyanide addition, Phoenix monitors free cyanide in the last CIP tank (CIP#5) with a target of 100 mg/l. If free cyanide is lower than the target, cyanide is added to the process. Free cyanide is also monitored at the Leach Tank with a target of 500 mg/l. Samples are taken every shift by the operators to ensure cyanide concentrations are within the defined targets and add more cyanide if needed. Results of this ongoing testing are provided to the

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operators to guide them in the addition rates for cyanide. Samples of all CIP tanks are also taken 4 days a week by the Metallurgical lab.

Phoenix has evaluated various control strategies for cyanide addition, however, the current strategy of ore blending to manage variability of the ore body is the one that has provided better results. The Phoenix mine manages cyanide addition to meet the post-destruction WAD cyanide target of 50 mg/l at the spigots at the TSF, however, the process aims to achieve a concentration of 30 mg/l of to manage variability. In this regard, cyanide levels are measured at CIP#5 tank to determine if it is at a target level prior to cyanide destruction. Adjustments in cyanide addition are made accordingly to meet the target. In addition, cyanide levels are measured at the feed to detox, at the TSF spigot, and at the supernatant pond.

Phoenix has two major parameters to control cyanide addition: a) the permit issued by the State of Nevada related to a maximum WAD CN concentration at the tailings slurry; and, b) to have adequate cyanide concentrations in the solution to extract gold from the ore. Samples taken at the Leach Tank and at the CIP#5 tank allows to control cyanide addition and meet the defined targets for free cyanide. Results from daily cyanide concentration analyses are continuously used to control cyanide addition. The results are reviewed and, if changes are needed, they are communicated to the process operator.

At Lone Tree, the mine controls cyanide addition by sampling the barren and pregnant solutions each shift. The target for the pregnant solution returning from the heap leach pad is 0.15 lb. liquid cyanide per ton of process solution (75 ppm free cyanide). Adjustments in the application rates are made to meet this target.

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

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 4.3

Discuss the basis for the Finding/Deficiencies Identified:

The Phoenix Complex continues to use a comprehensive, probabilistic water balance using Goldsim software platform for both the Phoenix and Lone Tree mines. The water balance for both operations are calibrated every month by using real precipitation data and tailings deposition. The Phoenix mine water balance includes the following factors: tailings production; tailings deposition rates; precipitation, evaporation and seepage rates; impacts of freezing and thawing; potential power outages; and fresh water input. A description of the water balance model and calculations is described in the Phoenix Mine Water Balance Model developed by Golder Associates, dated March 2017. The Lone Tree mine water balance includes the following

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factors: solution application rates; precipitation, evaporation and seepage rates; impacts of freezing and thawing; and potential power outages. A description of the water balance model and calculations is described in the Lone Tree Mine Heap Leach Facility Water Balance Model developed by Golder Associates, dated March 2017.

The Lone Tree Water Balance Model developed by Golder Associates describes the solution rates applied to the leach pads through the heap leach pumping rates. For the Phoenix mine, the Water Balance Model considers the tailings deposition rates into the TSF during the calibration process. A bathymetric survey is conducted periodically at the TSF pond to evaluate consolidation of the tailings.

According to the Water Balance documents for each mine, the 100-year, 24-hour precipitation event has been considered in the models to provide a sufficient degree of probability that overtopping of the solution ponds and TSF impoundment can be prevented during the operational life of the facilities. In the case of Lone Tree, the 100-year, 24-hour storm event considered in the model is 1.5 million gallons, plus 8 hours of draindown during a power outage. For Phoenix, the 100-year, 24-hour storm event considered in the model is also 1.5 million gallons. Freeboard in the TSF is regularly monitored to meet the design criteria of 3.0 feet.

There is one weather station situated at Lone Tree. At the Phoenix mine, there are 3 weather stations; however, only one is used for water balance purposes. The weather stations at Lone Tree and Phoenix have collected rainfall data since 2014 and 2011, respectively. Evaporation data is calculated using other weather parameters such as temperature and relative humidity.

Both the Phoenix TSF and the Lone Tree HLF have a surface water control system for controlling and safely directing runoff generated from upgradient watersheds around them. The water balance takes into account the seepage beneath the Phoenix TSF which is captured in the reclaim pond and pumped back to the Phoenix mill. The water balances take into account conditions of freezing and thawing, including snowmelt and an allowance for an average spring breakup (thawing) period.

The water balance considers evaporation losses and calculated infiltration rates. The Phoenix TSF has a clay liner to reduce the potential for seepage to the subsurface and includes a reclaim pond below the TSF dam to collect and return seepage back to the system. In the case of Lone Tree, the HLF has a synthetic liner and does not have an underdrain system to collect seepage from the heap leach pad or solution ponds. The main facilities are simulated within the water balance models including the Phoenix TSF and Lone Tree HLF. Both mines are supplied with emergency backup power generators and power outages of various durations or equipment failure are considered and can be simulated in the water balance model. The models can predict situations and conditions that would result in possible releases to the environment.

The Phoenix Complex does not discharge any solution containing cyanide to the environment, including surface water. As such, this component is not considered in the water balances.

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Seepage from the Phoenix TSF is collected in the reclaim pond and pumped to the process. In addition, water from a groundwater chloride plume from an adjacent area is pumped from 5 groundwater wells and discharged to the TSF supernatant pond and added to the process. The amount of water pumped from these wells into the process are also included in the water balance.

The Phoenix Complex conducts frequent inspections to TSF and HLF and monitoring activities to ensure these facilities are operated according to the design criteria. Process operators conduct daily inspections to the HLF and TSF. The Phoenix tailings dam is being constructed in stages and the current stage elevation is well above the required storage level for storing supernatant, impounded tailings, and storm events. Freeboard in the Phoenix TSF is visually inspected on a daily basis. The auditors reviewed data for the last 3 years and verified that 3 feet of freeboard has been maintained at all times. Minimum freeboard registered in the last 3 years was 15.76 feet. A survey is conducted every month at the TSF pond to evaluate consolidation of the tailings.

The Lone Tree HLF, including solution ponds levels, are monitored on a daily basis. Solution ponds are equipped with ultrasonic level sensors that report to the control room for real-time monitoring of pond levels. The auditors reviewed data for the last 3 years and verified that there was enough capacity to withhold a 100-year, 24-hour storm event. A minimum freeboard of 2 feet was maintained at all times. Diversion channels around the HLF are also inspected daily.

The Phoenix Complex incorporates inspection and monitoring activities into their procedures to implement the water balance and prevent the overtopping of the TSF and process ponds. Inspection records for both the TSF and HLF were reviewed for the last 3 years and found to be complete. The auditors also reviewed monitoring data for the last 3 years and verified that design freeboard for the Phoenix TSF (3 ft.) and solution ponds at Lone Tree HLF (2 ft.) were maintained at all times.

The Phoenix Complex measures precipitation and the data is added frequently to the water balance. The water balance models are updated and calibrated monthly by adding real precipitation data and tailings deposition records as mentioned Water Balance Model documents for each mine. The auditors reviewed on-site meteorological monitoring data. The Phoenix Complex maintains the information in an Excel spreadsheet, which is then uploaded into Goldsim. The records are complete.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 4.4

Discuss the basis for the Finding/Deficiencies Identified:

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The Phoenix Complex has implemented the measures to restrict wildlife and livestock access to open waters including barbed wire fence around the mine perimeter (Phoenix Mine); chain link fence around the reclaim pond (Phoenix Mine); barbed wire fence around the perimeter of the HLF (Lone Tree Mine); eight-foot high chain link fence around the Phase 5 Pond (Lone Tree Mine); eight-foot high combination chain link-barbed wire fence around the East and West Ponds (Lone Tree Mine); birdballs on the surface of all ponds (Lone Tree Mine); and netting on Barren Tank (Lone Tree Mine). In addition to the physical restrictions listed above, the operation uses mobile propane cannons around the perimeter of the Phoenix TSF supernatant pond for temporary hazing, as needed.

The Phoenix Mine does not operate ponds, impoundments or other areas of open waters with WAD cyanide concentrations above 50 mg/l. The Phoenix Cyanide Management Plan indicates that the target WAD cyanide concentration range in the treated tailings is 25 – 50 ppm. The Phoenix TSF is the only facility with significant open waters with cyanide-related solutions including the supernatant pond and the reclaim pond. The operation uses ammonium bisulfite to destroy cyanide in the tailings before discharge to the tailings impoundment. WAD cyanide concentrations measured at the discharge spigots to the Phoenix tailings storage facility did not exceed 50 mg/L during this ICMC recertification period.

There were no events that exceeded WAD cyanide concentrations above 50 mg/l in the supernatant pond during the recertification period.

The Lone Tree Cyanide Management Plan indicates that particular consideration shall be given to limit the level of WAD cyanide to 25 mg/L or less in open waters. A review of monitoring results of the East and West solution ponds for the last three years indicated that WAD cyanide concentrations were below 50 mg/l the majority of the time, with a couple reported values of 55 mg/l on December 2019 and April 2020 at the West Pond. WAD cyanide concentrations at Phase 5 pond were below 50 mg/l for the recertification period. All solution ponds have bird balls to limit access of wildlife to open waters.

During the last 3 years, the Phoenix Complex has been successful at preventing wildlife mortalities related to cyanide facilities. Both the Phoenix TSF and the Lone Tree HLF are inspected daily for wildlife mortalities. The WAD cyanide values at the Phoenix TSF are well below the recommended value of 50 mg/l. Maximum reported value in the TSF pond for the recertification period was 32 mg/l. At Lone Tree solution ponds, WAD cyanide concentrations were generally below 50 mg/l for the recertification period, with a couple reported values of 55 mg/l on December 2019 and April 2020 at the West Pond. All solution ponds have bird balls to limit access of wildlife to open waters.

Both the Phoenix and Lone Tree mines have Industrial Artificial Pond permits with the Nevada Department of Wildlife (NDOW), where they are required to maintain concentrations in open waters to prevent any cyanide mortality, conduct wildlife monitoring, and report all wildlife

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mortalities. If an animal mortality is found, the Complex holds the carcass until authorized by NDOW to dispose of it. If there is concerns whether the mortality is related to cyanide, NDOW has the authority to require testing. The auditors reviewed the wildlife mortalities register and there were no mortalities related to cyanide.

The Lone Tree Mine includes an active HLF where leach solution is applied with drip emitters on the top surface and with wobblers or drip emitters on the side slopes. The operation limits the overspray of leach solutions off the leach pad liner when using wobblers on the heap side slopes. The operators conduct daily inspections where ponding, if present, would be noted and mitigated.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 4.5

Discuss the basis for the Finding/Deficiencies Identified:

Not applicable to the Phoenix Complex, as it does not have direct discharges to surface water. The Phoenix and Lone Tree Mines operate with zero discharge of process solutions. The mines are located in an arid climate with no natural surface water bodies on the properties or within close proximity. The operation does not have an indirect discharge to surface water.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 4.6

Discuss the basis for the Finding/Deficiencies Identified:

As stated in previous audit reports, the Phoenix Mine's cyanide facilities consist of the mill and related conveyance pipelines, tanks and containments, the tailings delivery and reclaim water pipelines, the TSF and the reclaim pond. The mill has adequate concrete spill containment to prevent seepage. The tailings delivery pipelines are contained within an 80-mil high density polyethylene (HDPE) 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 contains monitoring valves to detect any water presence. The underdrain and reclaim piping between the

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TSF and the reclaim pond is underlain by a synthetic liner, consisting of a double pipe system, or are contained within concrete structures

The Phoenix TSF consists of an historic unlined portion divided into a northern (copper operations) portion and southern (gold operations) portion and a new partial synthetic-lined impoundment constructed over a portion of the northern copper operations impoundment. The impoundment expansion over the northern copper operations impoundment has a synthetic lining system, which caps the copper tailings and provides containment for the new gold tailings. The TSF was designed in accordance with the NDEP "Zero Discharge" requirements and the Nevada Department of Water Resources (NDWR) Department of Dam Safety criteria. A drainage system constructed throughout the impoundment above a geomembrane liner, consisting of a network of perforated piping, serves to lower the hydraulic head on the geomembrane liner and enhance consolidation of the tails via bottom drainage of the tailings mass. Tailings underflow water collected by the underdrain system is conveyed beneath the dam to an external reclaim pond. Supernatant water that pools on the surface of the tailings is directed to the reclaim pond by gravity via an inclined decant riser. Solution flowing to the reclaim pond is pumped back to the mill through a reclaim water pipeline for reuse in the milling process. The reclaim pond also has a LCRS system to collect and pump back any fluid detected between the synthetic liners of the pond.

The Lone Tree HLF include a leach pad placed on top of a low permeability soil HDPE liner, and pregnant solution collection systems. The East and West solution ponds have a dual HDPE liner with an LCRS between the primary and secondary liners. The Phase 5 Pond has a triple liner system consisting of a 12-inch layer of compacted low permeability soil, a HDPE secondary liner, and a HDPE primary liner. An LCRS is between the primary and secondary liners. The CIC Plant (Trains A, B and C Trains, which are currently not operational) has curbed concrete floors with sumps. The Train E CIC Columns has a concrete floor with a sump, and is located within the footprint of the lined leach pad. The Precipitation Circuit, which was part of the former thickener facility when the mill was operating, has curbed concrete floors with sumps. The solution conveyances between facilities has HDPE pipes within lined secondary containment channels, or pipe-in-pipe configurations, or pipes within pipe trays.

The Phoenix Mine continued monitoring 8 downgradient point-of-compliance wells in accordance with its WPCP. The direction of the gradient is approximately to the south of the cyanide facilities. Monitoring for 2019 through 2021 showed no detectable WAD cyanide in groundwater.

The Lone Tree Mine continued monitoring five point-of-compliance wells around the cyanide facilities in accordance with its WPCP. The direction of the gradient is approximately from the south to the north in the vicinity of the cyanide facilities. The quarterly monitoring for the recertification period showed no detectable WAD cyanide in groundwater.

The beneficial use for groundwater downgradient of the cyanide Phoenix Complex, as designated by the State of Nevada, is agricultural and livestock use. The standard is 0.2 ppm

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WAD cyanide. The Phoenix Complex has not caused cyanide concentrations in groundwater to rise above levels protective of beneficial use.

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

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 4.7

Discuss the basis for the Finding/Deficiencies Identified:

The Phoenix Complex has spill prevention and containment measures for processing facilities. These facilities remain unchanged since the initial certification audits and the previous recertification audits.

For the Phoenix Mine this includes the offloading area and cyanide storage tank, the leach and CIC areas, the carbon circuit area that contains the intense cyanidation solution tank, the tailings collection box, the B-C Train, and two detox reactors. There are automated pumps within the containments to pump collected solutions into the process circuit. The containments are constructed of cast-in-place reinforced concrete. The cyanide storage tank area is within a concrete containment with sufficient capacity to contain 110% of the largest tank plus the 100-year, 24-hour storm event. The containment volumes for the CIP/leach area, carbon circuit and the grinding circuit buildings (includes the intense cyanidation unit) are constructed to contain 110% of the single largest tank in the area.

For the Lone Tree Mine this includes the cyanide offload tank that has a concrete secondary containment with a sump to return solutions to the process circuit and a wall cut-out to direct large releases to the secondary containment for the CIC Plant; the CIC Plant has curbed concrete floors sloped to sumps to return solutions to the process circuit along with an emergency overflow system that includes a collection vault and piping to the East Pond; E-Train CIC Columns that is a skid installed on a curbed concrete pad with a sump that gravity flows to the East Pond, all located within the lined footprint of the HLF; Phase 5 Pregnant Tank that is a double-walled tank-in-tank facility with gravity drainage to the adjacent Phase 5 Pond; Barren Tank that was constructed with a concrete gravity drainage system to the adjacent East Pond; and the Precipitation Circuit that is part of the inactive mill facility and as such has a walled/curbed concrete containment with sumps to return solutions to the process circuit.

As stated in the last recertification audit report, secondary containments for cyanide offloading, storage, and process tanks are sized to hold a volume at least 110% of the largest tank within the containment and piping draining back to the tank with additional capacity for the design storm event. The secondary containment volume calculations were reviewed and deemed as sufficient. Furthermore, those containments have remained unchanged since last recertification audit. The

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entire process areas for the Phoenix Complex is contained within a concrete pad surrounded by curbs and walls, providing a competent barrier to seepage. The concrete floor is sloped to drain to concrete trench drains, where any spills or rainwater will be pumped back to the process, or they are equipped with gravity flow-through capabilities to adjacent process ponds. The containment system of the offload areas are adjacent to the milling areas.

The Phoenix Complex has several procedures, plans and manuals in place which are implemented to prevent discharge to the environment of any cyanide solution or cyanide-contaminated water that is collected in a secondary containment. In the case of the Mill at Phoenix and the process plant at Lone Tree, all tanks and cyanide facilities are located inside concrete secondary containment systems with dedicated pumps that remove solutions and return them into the process circuit. The Phoenix Complex has SOPs to prevent discharges of cyanide solutions to the environment, or cyanide-contaminated water from secondary containments.

The Phoenix Complex has spill prevention and containment measures for cyanide process solution pipelines. These facilities remain largely unchanged since the initial certification audits and the previous recertification audits. The Phoenix Complex has constructed all pipelines with spill prevention and containment measures to collect leaks and prevent releases. Pipelines have been constructed either as pipe-in-pipe configuration or within lined ditches and pipelines between separate processing buildings are connected with HDPE pipelines in concrete, underground utility corridors. Cyanide pipelines are inspected daily using an inspection checklist.

The Phoenix Mine tailings delivery and reclaim water pipelines between the process area and the TSF are located predominantly above ground. The above ground tailings slurry pipeline is constructed within a HDPE lined ditch whereas the reclaim water pipeline is constructed of a Tite-Liner® System that is composed of an outer steel pipeline with a HDPE pipe insert. The outer pipeline contains monitoring valves to detect any water presence. Where buried, the pipelines have a pipe-in-pipe configuration. The TSF pipeline has additional protection devices over the flanges to avoid overspray outside of containment in case of pipeline failure or leak.

At Lone Tree, pipelines between the CIC Plant and the HLF are contained in HDPE-lined ditches or within pipe-in-pipe systems where they go under roads. The high-grade overhead line from the cyanide storage tank passes over the concrete floor of the CIC Plant and then within a pipe tray from the CIC Plant to the cyanide addition point at the barren tank. The barren pipelines to the HLF are equipped with both pressure and flow monitoring systems that report to the control room. The pregnant lines from the HLF are equipped with flow monitoring devices.

As mentioned in previous audit reports, no cyanide pipelines present a direct risk to surface water. There are no perennial or ephemeral surface water bodies in the vicinity of the Phoenix Complex requiring special protection for pipelines. All outside pipelines have secondary containment: pipe-in-pipe, concrete ditch or enclosure, or pipe within a lined channel. Pipelines to and from the Phoenix TSF and Lone Tree HLF remain unchanged and retain the same safety

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features identified in previous audits. All facilities are far away from areas that may require special protection.

As stated in previous audit reports, all cyanide storage and process tanks are constructed of coated carbon steel placed on concrete foundations; solution pipelines are constructed of steel or HDPE, which are compatible with high pH cyanide solutions.

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

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 4.8

Describe the basis for the Finding/Deficiencies Identified:

Quality assurance and quality control (QA/QC) programs have been implemented during the construction of cyanide facilities at the Phoenix Complex. The Complex maintains files with QA/QC reports for the facilities constructed before the last recertification audit in late 2018, which was found in compliance with the Code requirements, and has implemented QA/QC programs for the new cyanide facilities built during this recertification period. Appropriately qualified personnel have prepared the documents – Nevada registered Professional Engineers and subsequently approved by the NDEP, and the Bureau of Mining Regulation & Reclamation.

New cyanide facilities constructed since the 2018 audit at the Phoenix mine are: Completion of Stage 7 of the tailings impoundment; Completion of Phase 1 of Stage 8 of the tailings impoundment. The auditors reviewed the record of construction for these facilities. Golder Associates prepared the design and conducted the construction oversight for the Phoenix Mine TSF, as Golder is both the Engineer-of Record and the firm that conducted the QA/QC. A review of the Record of Construction for the 4965 and 4973 Expansion reports demonstrating and discussing QA/QC measures and procedures confirmed that the construction through the 4973 Raise was in accordance to accepted engineering standards and specifications. A Registered Professional Engineer signed the report.

The Lone Tree Mine has not modified any existing cyanide facilities or added any new cyanide facilities during this audit cycle.

All QA/QC programs at the Phoenix Complex addressed the suitability of materials and adequacy of soil compaction. The mine maintains files with the QA/QC reports for its cyanide facilities. The QA/QC reports include suitability of materials and adequacy of soil compaction for earthworks including tank foundations, subgrade and concrete testing, fabrication material certificates and technical specifications for HDPE drainage products, geo-synthetic, liners, piping, electrical and

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mechanical instrumentation. For the new expansions of the TSF impoundment, the auditors verified that QA/QC activities were conducted for placement of mine waste rock in the embankment, relocation of tailings distribution lines and installation of inclinometers. As-built drawing are also included in the QA/QC reports. QA/QC reports also include non-destructive test logs, destructive test logs, vacuum tests, pre-weld tests, destructive sample tests, and repair controls.

QA/QC records for cyanide facilities are retained by the Phoenix Complex. For the cyanide facilities built since late 2018, the auditors reviewed the following documents in electronic version: Record of Construction Phoenix TSF Reference Elevation 4965 Expansion, dated January 2020; Record of Construction Phoenix TSF Reference Elevation 4973 Expansion, dated December 2020. The auditors also verified that QA/QC records are retained for all other cyanide facilities including previous stages of the Phoenix TSF (Stages 1-6), tailings pipeline, the Phoenix Mill and Lone Tree Heap Leach Pad Stages 1-7.

Qualified engineering companies performed the QA/QC inspections and reviews during construction of the cyanide facilities at the Phoenix Complex, and prepared the final construction reports certifying that the facilities were constructed in accordance with the design drawings and technical specifications. The auditors reviewed records of construction reports, including as-built drawings for the new cyanide facilities. As-built drawings were properly stamped by a qualified engineer. QA/QC reports are signed by qualified personnel from reputable engineering companies and provided documentation that the facilities were built as designed.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 4.9

Describe the basis for the Finding/Deficiencies Identified:

The Phoenix Complex "Water Sampling and Monitoring" procedure (dated February 2020) addresses monitoring requirements related to groundwater, process fluids, supernatant and reclaim water. The procedure describes the requirements for field quality control, training of samplers, calibration of sampling equipment, blanks and duplicate samples, field data collection, collection and preservation of samples, well sampling, chain of custody, data management, and a map indicating location of compliance sampling points. The Phoenix WPC permit NEV0087061 dated July 19 2019, and the Lone Tree WPC permit NEV0090058 dated December 11 2020, include the cyanide species and other parameters to be analyzed, as well as frequency and sampling locations. Additionally, there is a procedure discussing wildlife mortality investigation and reporting requirements.

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As indicated in the WPCP permits, the "Water Sampling and Monitoring" procedure needs to be updated every year. The most updated version of the procedure is sent with the annual report to the Nevada regulatory agencies. Qualified personnel of the Phoenix Complex environmental department prepared and update the water sampling and monitoring procedure as needed. Staff in charge of preparing the monitoring plan are suitably qualified, with many years of experience in environmental management in mining activities.

The Phoenix and Lone Tree WPC permits include the cyanide species and other parameters to be analyzed (Profile 1), as wells as frequency and sampling locations. The "Water Sampling and Monitoring" procedure describes preservation techniques, equipment calibration, quality control, chain of custody procedures and shipping instructions. The samples are analyzed at Western Environmental Testing Laboratory (WETLAB) located in the city of Sparks. The analytical protocols have been selected using standard methods to achieve the desired detection limits.

The Phoenix Complex documents sampling conditions on field logs that accompany each sample. The log includes the date, the sampler, weather conditions, sampling method, field parameters, purge volume (for wells), sample volume and sample preservation. A comments section is used to document abnormal sampling conditions.

The Phoenix Complex does not monitor surface water for cyanide as it operates with zero discharges of process solutions. In addition, the mines are located in an arid climate with no natural surface water bodies in the vicinity of the mines. The Phoenix Complex monitors groundwater for WAD cyanide in wells downgradient of the cyanide facilities on a quarterly basis, as required under their WPCPs.

During the last 3 years, the Phoenix Complex has been successful at preventing wildlife mortalities related to cyanide facilities. Both the Phoenix TSF and the Lone Tree HLF are inspected daily for wildlife mortalities. The Complex trains operators on proper methods for reporting and handling mortalities. Mortalities are reported if they are observed in the field. The WAD cyanide values at the Phoenix TSF are well below the recommended value of 50 mg/l. Maximum reported value in the TSF pond for the recertification period was 32 mg/l. At Lone Tree solution ponds, WAD cyanide concentrations were generally below 50 mg/l for the recertification period, with a couple reported values of 55 mg/l on December 2019 and April 2020 at the West Pond. All solution ponds have bird balls to limit access of wildlife to open waters.

The Phoenix Complex conducts monitoring at frequencies adequate to characterize the groundwater and identify wildlife mortalities. Groundwater samples are collected and analyzed on a quarterly basis. Wildlife monitoring is continuous while employees are outside the properties and during daily inspections. The Phoenix Complex does not monitor surface water because it operates with zero discharge of process solutions and there are no natural surface water bodies on the properties or within close proximity. The frequencies of the monitoring activities were deemed to be appropriate by the auditors.

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

Standards of Practice

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

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 5.1

Describe the basis for the Finding/Deficiencies Identified:

The Phoenix Complex has prepared reclamation and closure plans as part of their permitting programs for the operations. The current version of the Phoenix Mine Reclamation Plan is dated March 2018 and approved later that year by the NDEP-BMRR (Bureau of Mining Regulation and Reclamation). The most recent version of the Lone Tree Mine Reclamation Plan is dated March 2015. The closure plans addresses decommissioning and reclamation of all project components at the cessation of operations including the decommissioning of all cyanide facilities such as TSF, HLF, solution ponds, and the mill and plant buildings. This includes removal of contained process water from facilities and reducing the amount of water that is added to the facilities from precipitation. In addition, the closure plan addresses disposal of buildings, equipment, piping, scrap, reagents, equipment and materials.

Rinsing of heap leach pads with water is considered in the closure strategy (for 5 years) for the Lone Tree mine. There is no solid cyanide storage at the Phoenix Complex and as such, it is not considered as a reclamation item in the closure plan. No water treatment needs for cyanide facilities are considered for the post closure phase. Decommissioning activities include all the necessary steps to bring the facility's components to a safe, chemically stable condition, such that they do not present a risk to people, wildlife or the environment due to their cyanide content.

The Closure Plans for both the Phoenix and Lone Tree mines includes an implementation schedule for decommissioning activities including the sequence and duration of facilities closure. For the Phoenix mine, the schedule include activities to be conducted starting in year 2026 with partial closure of the TSF until 2039 when closure of the TSF is projected to be completed. All other facilities are expected to be closed between 2031 and 2034. This schedule will continue being refined as Phoenix approaches the closure period. For the Lone Tree mine, the schedule

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include closure activities to be conducted starting in year 2020 until 2030 for the heap leach pad, process ponds, pipeline, tanks, pumps, and plant components. The Lone Tree TSF is considered to be closed between 2019 and 2038. The Phoenix Complex reviews their reclamation plans and update them periodically. Reclamation plans are updated on an as-needed basis (when closure strategies significantly change). For the Phoenix Mine, the current version of the Reclamation Plan is dated March 2018. NDEP-BMRR requires an update of surety bonds for reclamation every 3 years. The last 3 year surety bond update for Lone Tree was approved on July 25, 2019. In addition, there is a Tentative Plan of Permanent Closure (TPPC) that is developed based on the reclamation plans and needs to be revised and updated every 5 years as a requirement of the WPCPs. For the Phoenix Mine, the TPPC is dated June 2021; and for Lone Tree mine is dated March 2019.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 5.2

Describe the basis for this Finding/Deficiencies Identified:

The Phoenix Complex has developed cost estimates for full funding of third party implementation of reclamation and decommissioning activities described in the reclamation plans. Cost estimates utilize the "Standardized Reclamation Cost Estimator" (SRCE), a cost-estimating model developed by the Nevada Division of Environmental Protection and the Bureau of Land Management. The cost estimates include third party unit costs, local equipment rental rates, costs for engineering design, contingency, insurance, performance bond, contractor profit, and agency indirect costs. Nevada Gold Mines asset retirement obligation (ARO) cost estimation for each mine, including cyanide facilities decommissioning costs, are reviewed and updated every quarter and submitted to the Corporate office, where it is audited by an external party. These costs are calculated using third party rates.

ARO cost estimation for each mine is reviewed internally every quarter and submitted to the Corporate office and audited every year as part of the financial statement of the company. In addition, NDEP requires that reclamation plans and costs are updated at least every three years or if there is a major modification of the facilities. The 2018 Phoenix Mine reclamation cost estimate is \$576 million and includes decommissioning measures for the TSF, process buildings and equipment, process ponds, pipeline removal, waste water treatment, disposal of wastes, and associated overhead and administrative costs. The 2018 Lone Tree Mine reclamation cost estimate is \$80.9 million and includes decommissioning measures for the heap leach pads, tailings, process buildings and equipment, process ponds, pipeline removal, decontamination, waste water treatment, disposal of wastes, and associated overhead and administrative costs.

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The Phoenix Complex reviews their reclamation plans and update them periodically. Reclamation plans are updated on an as-needed basis (when closure strategies significantly change). For the Phoenix Mine, the current version of the Reclamation Plan is dated March 2018, while for Lone Tree mine is dated March 2015. NDEP-BMRR requires an update of surety bonds for reclamation every 3 years. The last 3 year surety bond update for Lone Tree was approved on July 25, 2019.

The Phoenix Complex has established financial assurance mechanisms approved by the Bureau of Land Management (BLM) Nevada State Office. For the Phoenix Mine, BLM issued a Decision Letter dated October 17th, 2019 accepting a Surety Bond Rider for US\$661 million. This amount is based on the 2018 Phoenix Reclamation Plan cost estimate. For the Lone Tree Mine, BLM issued a Decision Letter dated November 9th, 2020 accepting a Surety Bond Rider for US\$85 million based on the 2018 reclamation cost estimate.

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

Standards of Practice

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 6.1

Describe the basis for the Finding/Deficiencies Identified:

The Phoenix Complex has standard operating procedures (SOPs), standard task procedures (STPs), as well as manuals, plans, and guidelines that describe the management and operation of cyanide facilities to help minimize the possibility of worker exposure to cyanide. Some of the documents are common to both the Phoenix Mine and Lone Tree Mine, while others are specific to the operation. The SOPs and manuals have been developed for the cyanide storage areas, mill areas, detox circuit, Heap Leach Pad (HLP) and TSF areas. They provide detailed information for the risks involved with each task (including unloading, plant operations, entry into confined spaces, and equipment decontamination) and adequately describe safe work practices.

The SOPs detail task specific requirements to conduct the tasks, with consideration of safety and potential hazards associated with the job. Verification of the written procedures included

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review of the specific task, plans and worker interviews. In addition to the OMS Manual for the Phoenix TSF, there are five plan and guideline documents, as well as 16 cyanide related SOPs.

The Phoenix Complex has Standard Operating Procedures (SOPs) and Standard Task Procedures (STPs) that require the use of personal protective equipment (PPE) and conduct pre-work inspections for cyanide related tasks. The STP forms include trainer and trainee requirements and acknowledgement, personal protective equipment (PPE) required, tools and specialized PPE required, consideration of safety and potential physical and chemical hazards associated with the job and procedure. In addition to the use of general PPE, such as hard-hat, steel toes boots, hearing protection, high visibility clothing, and safety glasses throughout the production area, areas and/or tasks where personnel may come into contact with cyanide may have additional PPE requirements.

The Phoenix Complex has a company-wide procedure Management of Change that includes the identification and review of the proposed changes, identification of relevant stakeholders for the project, analysis and evaluation of the changes by a multidisciplinary team including health, safety and environmental aspects, sign off by all areas that participated in the evaluation, approval, and implementation of the change. There is a MoC App in the SharePoint platform to complete and manage MoC processes. Changes to procedures are communicated to employees through review meetings and observing employees implementing the new or modified procedure.

The Phoenix Complex routinely solicits input from the workers when developing and evaluating the procedures. This is also accomplished through review of the procedures during safety meetings and during area or task training. Operators can communicate directly with supervisors regarding effectiveness and opportunities for improvement for the training and procedures. Operators conduct pre-task and job hazard analyses, which also provide an opportunity for feedback regarding procedures.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 6.2

Describe the basis for the Finding/Deficiencies Identified:

The Phoenix Complex has determined the appropriate pH for limiting the generation of HCN gas during cyanide mix and production activities. The Cyanide Management Plans indicate that a pH greater than 12 exists in the 30% cyanide solution delivered to the sites. The plans also require

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a minimum pH of 9.5 in the leach/CIP and leach pad areas, which is measured with installed process instrumentation, as well as checked manually by the operators.

HCN levels are monitored through fixed position gas monitors. These sensors are mounted in all areas of the plant in which HCN exposures are possible. There are six sensors located throughout the Phoenix mill as follows: Acid Wash Vessel, Cyanide Detox, Intense Cyanidation Unit (ICU), Carbon Handling between Cold Strip and Pregnant Solution Tanks, Trash Screen Feed Box, and Cyanide Offload Area. The monitors at Lone Tree are as follows: CIC Building between B & C train carbon in columns (CIC), Flume House, E Train CIC on the leach pad, Cyanide Offload Area.

The units are fitted with a visual alarm comprising red and amber strobes and an audible alarm. If ambient HCN concentrations above 4.7 ppm are detected, the amber light is activated. The red strobe signals if HCN levels exceed 10 ppm and the audible alarm is also triggered. HCN levels are displayed at the front of the unit and on the Distributed Control System (DCS) within the main control room and on remote operator stations.

The Standard task procedure for HCN Detection and Evacuation requires that in the event of a stationary alarm being triggered at levels above 4.7 ppm, but below 10 ppm, the area is cleared of nonessential personnel, barricaded, and checked by authorized personnel using a handheld multi-gas monitor ensure continuous safe working conditions and evaluate potential causes. Where HCN levels exceed 10 ppm, the procedure requires evacuation of the area for all employees to the designated assembly area until the area is deemed safe for workers to return.

Hydrogen cyanide monitoring equipment is maintained, tested and calibrated as directed by the manufacturer, and records are retained. The Electrical and Instrumentation (E&I) group is responsible for the calibration of the fixed HCN monitors. Calibration is conducted on a monthly basis. The site's maintenance program in SAP automatically generates a work order for the calibration reminder. The calibration and maintenance schedule are considered to meet the manufacturer's recommendation for maintenance of these units. The calibration records for the recertification period were reviewed and found to be complete.

Portable HCN meters are provided and made available for use in areas where there is a potential for HCN exposure, such as confined spaces.

Warning signs are posted in all areas where cyanide is present advising workers that cyanide is present and that smoking, open flames and eating and drinking are not allowed. No special signage is posted for PPE, as no areas require special PPE beyond that worn for routine operations. Any special task required PPE is indicated in the STP or SOP. The signs are in English, which is the language of the workforce. Verification was through visual inspection of the signs located in areas where cyanide solution is stored and used. These areas included cyanide storage and the process plants, including the detox circuit, as well as the Phoenix tails storage facility and the Lone Tree heap leach facility.

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The Phoenix Complex receives cyanide from Cyanco. The cyanide solution is delivered to the sites with red colorant dye already added. The concentrated cyanide solution used on site has a red color for clear identification.

Phoenix & Lone Tree have installed showers, eye wash stations, and dry powder fire extinguishers at strategic locations throughout the operation in all areas where there is a potential for exposure to cyanide. Showers and eye wash stations are inspected and tested every shift and recorded on the operator inspection forms, and prior to beginning a task that has the potential for cyanide exposure, such as cyanide delivery. Fire extinguishers are inspected monthly and serviced annually, as evidenced by the monthly inspection tags affixed to each extinguisher, as well as the annual inspection sticker for each unit.

The operation has identified all tanks and pipes that contain cyanide solution to alert workers of their contents. Pipes containing cyanide are marked as containing cyanide solution and flow direction is indicated. Cyanide storage and process tanks are marked as containing cyanide. Verification was by visual inspection. The auditors followed the cyanide solution circuit from the cyanide storage areas to the heap leach pad facilities and the mill circuits where cyanide is used.

The Phoenix Complex has available Safety Data Sheets (SDS) and first aids procedures in all areas where cyanide is managed. All information relating to cyanide management including SDS information, SOPS and emergency response plans are provided in English, the workforce language at the site.

Electronic safety data sheets (SDS) are accessible to all staff from computers located throughout the facility using the online portal and which all staff are trained to use. Employees receive training on the use and interpretation of SDS, in accordance with Mine Safety and Health Administration (MSHA) requirements for hazard training.

Incidents, injuries, occurrences of property damage, loss to process and near misses are recorded onto an online reporting system Isometrix. Reporting is required immediately on occurrence to a supervisor who is then required to provide the preliminary report into Isometrix within 24 hours. The incident report is submitted, and appropriate personnel are notified. The incidents are routinely assessed further, and the findings are shared at crew safety meetings.

Incidents are investigated in accordance with mine's guideline with root cause analyses completed. Incidents are retained on the database for categorization and aid in prevention of reoccurrence. Corrective actions are followed up until closure. There have been no health, safety or environmental cyanide related incidents reported during the recertification period.

No cyanide related emergencies occurred during this recertification period required the implementation of the emergency response procedures. The investigation procedures were implemented, as required, for non-cyanide related events, such as property damage incidents.

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

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 6.3

Summarize the basis for this Finding/Deficiencies Identified:

The Phoenix Complex has made available antidote kits, water, oxygen, resuscitators, radios, telephones, and alarms at the site. Amyl nitrite and escape respirators are located throughout the process plants where cyanide in reagent grade is present. The locations of the emergency equipment were deemed to be appropriate for the operation. Oxygen bottles, resuscitators, water, amyl nitrite, and Cyanokits are located in the emergency response vehicle. Oxygen bottles are also located in the control room and in the first aid room.

All operators carry a radio while performing their tasks. The site Mayday procedure dictates the communication among operators and the emergency response team in the event of an emergency. There is also a phone located at the cyanide offload and storage area. All fixed HCN monitors are equipped with an audible and visual alarm system and report back to the DCS system in the control room. Verification was conducted by visual inspection of the cyanide antidote kits and interviews.

Cyanide antidote kits consisting of amyl nitrite ampoules with expiry date information are located within small refrigerators fitted with thermometers to ensure that the ampoules are stored within a regulated temperature range between 36° and 46°F. Two Cyanokits are also available in the emergency response vehicle.

Ten-minute air escape packs are located at key plant areas to provide emergency air supply to a single area occupant. Self-Contained Breathing Apparatus (SCBA) equipment is maintained in the emergency response bay and on the fire truck.

Showers and eye-wash stations are located at strategic areas of the plant where cyanide and other chemicals are used. The showers and eyewash stations are tested each shift and prior to cyanide offloading or other tasks in cyanide related areas. Key areas, such as the cyanide offload and storage area are also monitored in the control room by the plant closed circuit television (CCTV) system. The control room is staffed 24-hours per day.

Emergency response equipment is regularly checked by emergency response and other health and safety personnel. This includes inspections of cyanide antidote kits (amyl nitrite and Cyanokit) and first aid stations. The eye wash stations, emergency showers and escape

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respirator packs are inspected each shift by the area operator. Inspections include checks of expiration dates of cyanide antidote kits notifying the Chief of Emergency response if replacements are required. Mine Rescue personnel inspects the emergency response vehicle on a monthly basis, including oxygen bottles, the amyl nitrite, and the Cyanokit.

The Phoenix Complex has an Emergency Management Plan (EMP), Cyanide Management Plan (CMP), and Operating Plan specific to each of the Phoenix and Lone Tree operations. In addition, Phoenix also utilizes the Operation, Maintenance, & Surveillance Manual for the TSF. The documents include communication roles and responsibilities, evacuation procedures, required notifications, reporting procedures, incident categories and risk assessment. Sections within the EMP and Operating plan specifically address emergency response procedures related to cyanide releases and cyanide exposures, and the CMP is wholly intended to address cyanide related emergencies.

The Phoenix Complex has its own onsite capability to provide first aid and medical assistance to workers exposed to cyanide. The Phoenix Mine has a fully staffed emergency response team (ERT). The team is comprised of 26 members, covering all four operating crews, with approximately 6 members on each shift. Training to the ERT is provided on a monthly basis. Training includes medical/trauma response and firefighting, as well as specialized training in HAZMAT, confined space rescue, and technical rescue (high angle rope). ERT members have achieved different training levels, including emergency medical responders (EMR), emergency medical technicians (EMT), and Advanced EMT (AEMT), all of which are achieved through the National Registry of Emergency Medical Technicians (NREMT). The Chief of Emergency Response is also an approved instructor and provides the onsite training.

In addition to the ERT, all personnel who work around cyanide are trained in basic first aid and response to cyanide exposure, including administration of oxygen, amyl nitrite, and use of an automated external defibrillator (AED).

If a cyanide exposure victim requires medical attention beyond the capabilities of the Phoenix on-site medical facilities, the emergency response vehicle maintained at the site will transport the victim(s) to rendezvous with local emergency medical services (EMS) or air ambulance.

Formal agreements are in place for both Battle Mountain General Hospital and Northeastern Nevada Regional Hospital to assist in treatment of cyanide exposures, including retention by the facilities of cyanide antidote kits (Cyanokit and Nithiodote) for use in an emergency.

The Phoenix Complex performs cyanide emergency mock drills at least annually and holds regular training sessions for the ERT covering multiple topics, including cyanide exposure response. Some of the drills reviewed included scenarios of HCN gas exposure, cyanide solution releases, and a series of tabletop exercises performed. Drills were reviewed covering all three years of the recertification period. One of the mock drills also included participation by the cyanide producer and transporter, as well as the local emergency services (EMS, hospital, fire,

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law enforcement, etc.). Drills are developed to include a variety of locations and scenarios including environmental release and exposure responses. Drills are developed in advance and risk assessed to minimize potential impact of event unpreparedness. Where necessary, deficiencies are identified and improvements to the emergency response training or procedures are made. Observations made are recorded in a formal After-Action Report (AAR) or incident debrief document, where both positive elements of the response and opportunities for improvement are tracked and included in subsequent training events and future response planning.

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

Standards of Practice

7.1 Prepare detailed emergency response plans for potential cyanide releases.

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of

□ not in compliance with Standard of Practice 7.1

Describe the basis for the Finding/Deficiencies Identified:

The Phoenix Complex has an Emergency Management Plan (EMP), Cyanide Management Plan (CMP), and Operating Plan specific to each of the Phoenix and Lone Tree operations. In addition, Phoenix also utilizes the Operation, Maintenance, & Surveillance Manual for the TSF. The documents include communication roles and responsibilities, evacuation procedures, required notifications, reporting procedures, incident categories and risk assessment. Sections within the EMP and Operating plan specifically address emergency response procedures related to cyanide releases and cyanide exposures, and the CMP is wholly intended to address cyanide related emergencies. The various plans set out emergency response procedures for the mine sites, including cyanide releases. Procedures for initial response, first aid and spill response, and reporting are provided in the plans.

The plans referenced above consider different scenarios appropriate to the site-specific circumstances and includes procedures to respond to emergency incidents including cyanide releases. Specific incident types, including transportation accidents, power outages, failure of cyanide destruction systems, etc. are all addressed by the plans.

In addition to these plans, further guidance is provided within the OMS, which provides specific procedures and guidance in the event of emergency situations and failures involving the TSF. The combined plans consider specific scenarios such as earthquakes, embankment

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overtopping, seepage from dams, embankment failures and cracking, embankment movement, instrument readings, and bomb threats.

Under the agreement between the Phoenix Complex and Cyanco as the supplier, Cyanco and TransWood (as transporter) are responsible for shipping of cyanide to site. This responsibility extends to consideration of transport routes, storage and packaging of sodium cyanide solution, the condition of transport vehicles and response in the event of an emergency or release during transport. As noted above, Cyanco and TransWood are certified in full compliance under the Code.

The EMP and CMP detail responses specific to cyanide spills or leaks including mill solution and reagent spills and makes provision for initial response, first aid, spill reporting contacts and spill control and cleanup. The location of cyanide emergency equipment such as SCBAs, HAZMAT equipment, first aid equipment, etc. are also provided. All ERT members are trained to respond to emergency incidents. The EMP provides responders rapid access to key information necessary to address a variety of potential emergency scenarios, including cyanide related incidents.

The OMS provides specific procedures related to the Tailings Management Area and provides for specific roles and responsibilities, resources to be allocated, lines of communication, and actions to be undertaken in the event of an emergency situations which include scenarios such as overtopping, embankment failures, and earthquakes.

Any emergency that has the potential to affect a community will trigger the notification requirements outlined in the Crisis Management Plan and EMP. The appropriate designated team member will notify all necessary parties, as required. Assigned personnel will contact emergency services, if necessary, and will inform potentially affected communities and parties.

7.2 Involve site personnel and stakeholders in the planning process.

The operation is:
in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 7.2

Describe the basis for the Finding/Deficiencies Identified:

The Phoenix Complex involves its workforce in cyanide emergency response planning. During training of the ERT and after emergency mock drills, the workforce has opportunity to provide feedback. Since all employees who work around cyanide are also trained in basic cyanide emergency response, those employees also have the opportunity to provide input in the process.

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The Phoenix Complex has made potentially affected communities aware of the nature of their risks associated with accidental cyanide releases. The Phoenix Mine is approximately 18 miles southwest of Battle Mountain and the Lone Tree Mine is approximately 20 miles northwest of Battle Mountain and 6 miles from Valmy.

The Phoenix Complex includes external responders in EMP development/planning to a limited extent. The mine maintains periodic communication with community emergency response stakeholders through participation in the Local Emergency Planning Committee (LEPC) by the Chief of Emergency Response. Further, the Lander County LEPC was party to development of the Tri-County Hazard Mitigation Plan, which considers all hazards, including cyanide transport. The site coordinates with LEPC and the Battle Mountain General Hospital but they are not necessarily involved in EMP planning; however, the role of each of the outside agencies that may be involved in an emergency are indicated in the EMP, as is the party responsible for requesting outside assistance. The Phoenix Complex has a formal mutual aid agreement in place with LEPC to provide outside assistance to the site.

The Phoenix Complex interacts with potentially affected stakeholders by regular communications and meetings with LEPC, local emergency responders, the hospital, and other community partners, as well as periodically engaging local partners to participate in tabletop exercises and emergency response drills.

The EMP documents state that the plans are to be reviewed and updated at least once a year or after emergencies or drills to reflect any information gathered during the response. The revision process involves responsible personnel from all mine areas. The most recent update was in April 2021 and included updates to the emergency response personnel and Active 911 system. A subsequent update was issued in August 2021.

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

The operation is:	: ■ in full compliance
·	□ in substantial compliance□ not in compliance with Standard of Practice 7.3
	I not in compilance with standard of Fractice 7.5

Describe the basis for the Finding/Deficiencies Identified:

The EMP provides primary and alternate designation of responsible parties for the management of an emergency, including the General Manager who has authority to ensure that sufficient and adequate resources are allocated to carry out the EMP.

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An ERT Personnel Matrix, which is maintained by the site Chief of Emergency Response, lists all ERT members, department/crew, phone numbers, and radio channel. The matrix also indicates the personnel identified as captains, co-captains, and members. Contact information in the EMP include call-out procedures and 24-hour contact information for the ER Chief. The mayday procedure issues a call for resources over the radio, contacting personnel who are already onsite. The ER Chief or Captain will request additional resources, if required. Contact information for external resources are listed in the EMP.

The EMP mandates that training must be undertaken by the ERT and it is the responsibility to the Chief of Emergency Response to ensure that training is provided and maintained. The ER Chief has overall responsibility to ensure that the current ERT is current and viable and is supported by the General Manager. Training records reviewed during the audit indicate that ERT members received training, as required, during the recertification period.

Emergency response equipment lists including the locations of cyanide antidote kits is provided in the EMP. The cyanide emergency response equipment is checked monthly by the ERT and records are retained for a minimum of 3 years. Equipment is also inspected on regular basis as it used by the ERT and during training sessions. The list of emergency response equipment is included in the CMP.

Emergency response planning requirements have been confirmed with Battle Mountain General Hospital and Northeastern Nevada Regional Hospital in Elko by means of regular communications and letters confirming willingness to support the operations by housing and maintaining proficiency training on the cyanide antidote kits. In addition, Lander County Ambulance and Battle Mountain Volunteer Fire Department, among others are part of the Emergency Response Plan and are included in a Mutual Aid Agreement with LEPC. Outside entities are engaged regularly and included in mock drills, as appropriate.

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

The operation is: ■ in full compliance	
☐ in substantial compliance	
□ not in compliance with Sta	andard of Practice 7.4

Describe the basis for the Finding/Deficiencies Identified:

The Crisis Management Plan provides the communication and notification process and procedures in the event of an emergency including request of support to outside agencies, if necessary. Among other responsibilities, the General Manager oversees all operations at the facility during an emergency and is responsible for briefing other team members and notifying corporate personnel and determining whether activation of the crisis management team is warranted.

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The External Relations Coordinator responds to media enquiries; the Health and Safety Manager advises when reporting to government agencies is required and requests mutual aid assistance if required. The Environmental Manager provides technical expertise related to emergencies which may impact the environment and is responsible for notifying the regulators when reporting is required. The EMP, CMP, Operating Plan, and OMS provide contact information for the relevant regulatory agencies, outside responders and medical facilities.

The EMP contains procedures for communications and includes emergency response contact information. In the event of an incident, the site or crisis management team will contact relevant State and Federal regulators who will in turn notify affected parties in local communities as necessary. Procedures for notifying outside agencies and the media are provided in the EMP, CMP, OMS, and the Crisis Management Plan. Contact information of potentially affected communities and the media are included.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 7.5

Describe the basis for the Finding/Deficiencies Identified:

The CMP provides procedures in the event of cyanide release and addresses cyanide recovery and remediation if necessary. Section 5.7.5 of the CMP requires that any cyanide containing solution spilled in the process area but outside of a contained area at the mill or leach pad be placed back into the leach circuit or on the historic Reona gold leach pad at Phoenix or the leach pad at Lone Tree. Any spills of cyanide solution within containment will returned to the process circuit through the use of the area floor sumps.

Cyanide impacted soils are to be excavated to depth of impact and deposited into the process or heap leach facility with repeated sampling until the cyanide levels are below 0.2 ppm WAD cyanide. Equipment decontamination is achieved through sufficient rinsing with water prior to beginning work.

Drinking water is prepared through onsite generation of potable water. In the event of an emergency, potable water could be trucked to site, if necessary. Bottled drinking water is also available in break rooms throughout the mine site.

The various response plans do not explicitly prohibit the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat any cyanide that would have been

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released into surface water. However, the plans also do not indicate or promote the use of these chemicals in treating cyanide that has been released to surface water, and as there are no surface waters within the vicinity of the operation that would be reasonably expected to be impacted through a release of cyanide, no further action was required to be in compliance with the Code.

Section 5.14 of the EMP outlines procedures for responding to a cyanide release, as well as the cleanup methods and sampling requirements. The plan also provides the verification requirement to confirm that adequate cleanup has occurred, requiring verification that residual impacted soils have a WAD cyanide concentration of less than 0.2 ppm. Excavation and sampling will continue until all samples achieve the required cyanide concentration

For process solution spills, the EMP requires operators to immediately stop the release of material and the CMP requires immediate notification the Area Supervisor or other responsible person named in the Plan. For reporting, the time of spill or when it was discovered is noted. Samples are collected and provided to the laboratory for analyses. Guidance for assessing the area of impact is provided. A spill report is then generated indicating the type and location of spill/discharge, the cause and the total area affected. Final sampling of the affected area is specified.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 7.6

Describe the basis for the Finding/Deficiencies Identified:

The Phoenix Complex annually reviews the EMP, as required in Section 5.25. The EMP requires the site to annually review the Plan to identify any required changes, and to test and review the adequacy of Emergency Response Procedures with drills and exercises. The Plan is also to be reviewed following implementation during any actual emergency. The Plan updates and reviews are conducted by multiple parties, including the health & safety manager, chief of emergency response, process operations manager, and surface operations manager. Final approval of plan changes, including the annual review of emergency management plan is by the General Manager.

The Phoenix Complex performs cyanide emergency mock drills at least once per year and holds regular training sessions for the ERT. All site personnel, including the ERT, also undergo annual training for cyanide management and emergency response.

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Some of the drills reviewed included scenarios of HCN gas exposure, cyanide solution releases, and a series of tabletop exercises performed. Drills were reviewed covering all three years of the recertification period. One of the mock drills also included participation by the cyanide producer and transporter, as well as the local emergency services (EMS, hospital, fire, law enforcement, etc.). Drills are developed to include a variety of locations and scenarios including environmental release and exposure responses. Drills are developed in advance and risk assessed to minimize potential impact of event unpreparedness

The EMP is reviewed and updated annually, at a minimum, or as necessary if changes are required or if events warrant review and update. During the recertification period, the plan has been reviewed and updated multiple times as additional information is added or if improvements can be made. The evolution of the document, including specific changes between versions, were reviewed by the auditors. No cyanide related incidents or releases have occurred since during the recertification period that would require implementation of the EMP.

ERT training exercises and mock drills were debriefed to identify and document improvement opportunities.

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

Standards of Practice

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

The operation is: in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 8.1

Describe the basis for the Finding/Deficiencies Identified:

All new hires, contractors and visitors at the Phoenix Complex receive an initial general induction training on health, safety and environmental matters before they can start working or enter the mine.

New workers at the mine, including both employees and contractors, receive orientation training in accordance with Mining Safety and Health Administration. All persons working on site must have undergone Part 48 New Miner Training or demonstrate having a valid annual refresher training certificate, documented on MSHA Form 5000-23. Surface New Miner training comprises 24 hours of orientation training addressing health and safety at surface metal mines. As the MSHA

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training covers general hazardous substance exposure, it may not specifically address cyanide. As such, all new employees receive cyanide specific training prior to beginning work. Process operations and maintenance personnel and those who are more likely to be exposed to cyanide, such as the ERT members, receive additional cyanide specific training.

The training on cyanide awareness to all employees covers general information related to cyanide, including uses, physical forms, smell, symptoms of exposure, routes of exposure, and exposure limits. For employees working in or around cyanide, additional training is provided which addresses, HCN monitors, addition points of cyanide in the operation, required PPE, pH controls, safety showers and eyewash stations, SDS information, routes of exposure, cyanide intoxication symptoms, first aid, cyanide antidotes, cyanide spill response, and sampling. The cyanide awareness training also includes a test administered to each employee to demonstrate an understanding of the training content.

Annual refresher training including cyanide and environmental modules are provided and completed every year to meet MSHA requirements. The annual training provided by the Phoenix Complex does include cyanide specific training, including properties of cyanide, hazards of cyanide, symptoms of cyanide exposure, emergency response, and first aid, including use of oxygen and amyl-nitrite. The training includes a written test.

ERT specific response training records are maintained by the Chief of Emergency Response. Records are available electronically through scans of documents and certifications for ERT members, as well as being tracked in the ERT training matrix spreadsheet, which is also managed by the chief. Cyanide hazard training for ERT members is administered and recorded in the same manner as for operations personnel, as noted above.

Training records, including cyanide hazard training for all employees who may be exposed to cyanide are retained by the process trainer in the form of electronic copies of the training in each employees training record. The process trainer retains cyanide related training provided to process personnel, while the Administrative Service area retains training records for all other employees, including cyanide training schedules and records.

Records for new employee training including orientation training are retained in accordance with MSHA requirements and recorded on MSHA 5000-23 forms. Records are stored electronically in each employees training file.

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

The operation is: ■ in full compliance

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

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Describe the basis for the Finding/Deficiencies Identified:

New mill employees and any worker with cyanide related tasks receives specific training on SOPs and STPs that apply to their job position. This training is provided by the process trainer and supervisors on operating procedures including both general procedures applicable to all site areas as well as those specific to a task. The SOP and STP are used as a record of training and are signed by both the trainer and the trainee. Operators are also instructed on conducting job task analysis, field level risk assessments, and area inspections, which are carried out within work areas. Training records are retained in a training file for each employee by the process trainer.

Supervisors coordinate with the training department to aid in operator training and advancement. Specific SOPs and STPs associated with each area are utilized to aid in the training. Operators are observed to ensure understanding of the process or task and demonstrate competency to the trainer or supervisor, as well as pass a written test before receiving sign off on a given task. Once all tasks for a circuit are completed, an operator may be considered for advancement or transfer to another circuit.

Standard operating and task procedures define the steps required to complete a task and the SOP or STP itself is provided as training material with sign off required from both the trainer (supervisor or process trainer) and the trainee. The process trainer maintains record of the training requirements for each circuit and retains signed training records and SOPs for each employee.

Training on specific tasks is generally provided by the process trainer or the supervisors; however, a lead or competent person may also provide the training. Supervisors are considered qualified to provide training based on experience. The process trainers receive instruction on "train the trainer". MSHA New Miner and Annual Refresher Training require training be provided by an approved MSHA instructor. This requirement was verified by discussion with the process trainer and records review.

All new employees are trained to receive a minimum specified level of site orientation, as require by MSHA, before being allowed to operate onsite. Training includes cyanide awareness training and, for those that will be working within the Mill or heap leach pad facilities, specific training on relevant SOPs and STPs for the job duties that they will perform. In addition, employees must complete general and specific task training before being allowed to work alone.

Annual refresher training is provided as required by MSHA and includes a specific module on cyanide management covering physical and chemical characteristics of cyanide, cyanide handling, monitoring, control of pH levels, exposure limits, exposure symptoms, PPE, treatment, rescue equipment, safety showers, emergency warning systems, evacuation, disposal and spill procedures.

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Following new hire orientation and cyanide refresher training, employees complete a written test to demonstrate understanding of the material. Verbal and written tests to demonstrate understanding are undertaken for task training with sign off by both the trainer and trainee. Employees must also demonstrate competence in completing the task through observation by the trainer.

Employee activities and task competence are monitored by supervisors, or a lead person, conducting safety interactions with employees and ensuring task checklists and procedures are followed. Task observations are utilized at both the mill and heap leach facilities.

Training records are retained throughout employment history. MSHA training records are retained by the process trainer and retained electronically on the site data server. Employees are also responsible for retaining a copy of their most recent MSHA training certificate. Training records for each employee, covering all training they receive, contain the date, subject covered and are signed by both the trainer and trainee. Written and practical tests are completed to demonstrate the employees understanding of the training materials.

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

The operation is: ■ in full compliance

☐ in substantial compliance

□ not in compliance with Standard of Practice 8.3

Describe the basis for the Finding/Deficiencies Identified:

All operators within the mill and heap leach facilities, which includes cyanide unloading (reagent operator), process operations, and maintenance personnel, are provided with site-specific hazard training including cyanide awareness, hydrogen cyanide monitoring, emergency response, recognition of cyanide exposure symptoms, cyanide exposure first aid, the role and operation of rescue equipment, and actions to be taken in the event of a cyanide spill including sampling.

Cyanide awareness training for employees includes actions to take in the event of a cyanide spill or exposure. Training also covers spill reporting, wildlife mortalities, and the spill cleanup disposal. These elements are also covered in the MSHA annual refresher training which all employees are required to attend. Employees who are actively working with cyanide are trained on bulk reagent offloading, including cyanide, cyanide equipment decontamination, and remediation of cyanide contaminated soils. Management and response personnel complete regular training drills in accordance with the EMP and CMP. All employees working around

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cyanide, including emergency response, unloading, production, and maintenance personnel, receive training in personnel decontamination and first aid procedures.

Site response personnel, including ERT members and operations and maintenance personnel, take part in routine drills to test and improve their response skills. Some of the drills reviewed included scenarios of HCN gas exposure, sodium cyanide solution exposure, vehicle accidents resulting in cyanide leaks, and cyanide exposure requiring confined space and technical rescue. After action reports document the lessons learned, including action items, which are tracked and followed up until closure.

The Phoenix Complex has an Emergency Response Team (ERT) on site, which is formed by personnel form different areas of the mine. ERT members are trained through participation in mock drill exercises as well as formal training programs. Formal training and certifications are in place for fire, first aid/medical, HAZMAT response, vehicle extrication, incident command, and technical rescue. Emergency responders are available on all shifts. All personnel working around cyanide are also trained on how to react in emergencies situations, including cyanide related events.

Emergency Response Team Members attend monthly training sessions during which cyanide exposure and emergency response topics are covered. Training sessions include the use and inspection of response equipment. Records of training provided to the ERT members for the last 3 years, as well as equipment inspection documentation was available for review by the auditors and were found to be complete.

The Phoenix Complex has communicated the Emergency Management Plan with the Battle Mountain General Hospital and the Northeastern Nevada Regional Hospital in Elko. Regular communications are held with the hospital facilities, during which cyanide emergency and response arrangements are discussed, including decontamination and transport procedures, the treatment protocol for cyanide exposure, and the onsite cyanide antidote kits. In addition, the mine has a Mutual Aid Agreement with LEPC which provides for emergency response services from the county, if required. In the event of a medical evacuation from site, ground response is by Lander County Ambulance and air response is coordinated and executed by MedX AirOne.

Annual refresher training is provided as required by MSHA to employees and includes response to cyanide exposures and response to releases. The ERT completes monthly training sessions including recognition of cyanide exposure, treatment and first aid. Mock drills are also conducted at least once per year and involve operations and maintenance personnel, management, and the ERT.

The Phoenix Complex performs cyanide emergency mock drills at least once per year year and holds regular training sessions for the ERT. The auditors reviewed evidence of emergency response drills during the re-certification period which included scenarios with HCN and liquid

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cyanide exposure and cyanide releases. The drills and scenarios are intended to test the Emergency Management Plan, Cyanide Management Plan, and the Crisis Management Plan.

Some of the drills reviewed included scenarios of HCN gas exposure, cyanide solution releases, and a series of tabletop exercises performed. Drills were reviewed covering all three years of the recertification period. One of the mock drills also included participation by the cyanide producer and transporter, as well as the local emergency services (EMS, hospital, fire, law enforcement, etc.). Drills are developed to include a variety of locations and scenarios including environmental release and exposure responses. Drills are developed in advance and risk assessed to minimize potential impact of event unpreparedness.

The Phoenix Complex performs cyanide emergency mock drills at least once per year. The EMP requires the review and critique of emergency response procedures, as well as performance against procedures during the mock drills or during an actual emergency. If deficiencies are identified, improvements to the emergency response procedures are made. Observations made are recorded using the formal after-action report or a debrief document where observations and opportunities for improvement are tracked and included in subsequent training events. While no formal guidance was provided as to which form was used, the After-Action Report (AAR) appeared to be utilized with more complex drills, while the debrief was used for documenting smaller scale events

Training records as required by MSHA are retained by the process trainer and are stored electronically on the site data server. This also includes cyanide training records for each employee.

Cyanide training and refresher records are retained and kept current by the process trainer with electronic copies of all training kept on file. Task training records also include sign-off by the employee and trainer with confirmation that training material has been understood.

ERT specific training records are maintained by the chief of emergency response. Training certifications status, participation in training, and the training topic are recorded into the ERT training matrix and kept electronically on the site data server.

9. DIALOGUE: Engage in public consultation and disclosure.

Standards of Practice

9.1 Provide stakeholders the opportunity to communicate issues of concern.

The operation is: ■ in full compliance

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□ in substantial compliance□ not in compliance with Standard of Practice 9.1
Describe the basis for the Finding/Deficiencies Identified:
The Phoenix Complex continued using mechanisms to provide opportunities to stakeholders to communicate their concerns related to cyanide management, including reports, meetings, and tours to the mine site.
The Phoenix Complex develops an Annual Report, as required for regulatory compliance. They also host quarterly community meetings, affording interested parties to attend and receive information in an open forum. A grievance procedure, including both an online form and phone number are available to the public. And new permits, as well as renewals are open for public comment. The auditors reviewed evidence of the reports and the quarterly meetings during the recertification period. The in-person quarterly meetings were suspended briefly in 2020 due to COVID-19 restrictions but resumed by the third quarter.
The external relations group organizes tours for stakeholders to visit the mine, including schools, universities, state officials, communities, family members, and tourists. Public tours represent an opportunity for stakeholders to raise questions or concerns related to cyanide management. Tours for the general public (tourists) were suspended under the joint venture.
NGM operates social media pages that provide a means of stakeholder communication. Though the pages are not specific to the Phoenix Complex, the administrators monitor the comments and would contact each site with specific issues, if necessary. The Barrick website also has contact information and provides means of engaging the community.
Many of the site personnel also participate in local committees, such as LEPC, the Chamber of Commerce, local fire and ambulance services, the Economic Development Authority, among others. These interactions also provide opportunities for stakeholder engagement regarding cyanide.
9.2 Initiate dialogue describing cyanide management procedures and responsively address identified concerns.
The operation is: ■ in full compliance □ in substantial compliance □ not in compliance with Standard of Practice 9.2
Describe the basis for the Finding/Deficiencies Identified:

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The Phoenix Complex utilizes the same mechanisms described above as opportunities to interact with stakeholders and provide them with information regarding cyanide management practices and procedures.

Mine tours are open to the public by invitation or special request, including schools, universities, regulators, communities, and other interested parties. As noted above, general tours are no longer in place. During such tours, mine information including cyanide management is readily made available to tour groups.

Cyanide related information provided to employees includes information cards describing the symptoms of cyanide poisoning. A cyanide factsheet is also available to staff with general cyanide information. A site fact sheet was developed and is maintained as part of the state permitting process.

The Annual Report is provided to regulators, as required but is also available to the public. In case of occurrence, the report should include any cyanide incidents related to cyanide management and releases, should they occur. There was a single cyanide related incident recorded in the last 3 years, occurring on September 1, 2020, from a break in the reclaim water line. Approximately 1,500 gallons of reclaim water spilled outside of containment. All reporting requirements were followed, including preliminary regulatory reporting. The solution was expected to contain low concentrations of cyanide and were reported with an estimated 1ppm concentration. However, the test results provided by an independent third-party lab indicated that cyanide concentrations for the samples were below detection limits. Reporting and cleanup procedures were still followed, even with the lack of cyanide detected.

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

The operation is: ■ in full compliance

□ in substantial compliance
□ not in compliance with Standard of Practice 9.3

Describe the basis for the Finding/Deficiencies Identified:

The Phoenix Complex has developed and updated written and visual descriptions of how their activities are conducted and how cyanide is managed and has made them available to communities and other stakeholders. These include safety training for all visitors, environmental fact sheets related to operations, cyanide safety data sheets, and the Annual Report, which is provided to regulators, as required, can also be made available to the public.

No cyanide exposures or incidents resulting in hospitalization or fatality have occurred prior to or since the mine was first certified. No cyanide releases off the mine site requiring response or

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remediation have occurred in the last 3 years. There is a procedure in place to respond to such scenario. No cyanide releases on or off the mine site resulting in significant adverse effects to the environment have occurred in the last 3 years.

In the last 3 years, a single cyanide spill was reported to the State. Approximately 1,500 gallons of reclaim water spilled near the TSF. The spill was reported and cleaned up according to the response plans. However, sampling and analysis determined that no detectable WAD cyanide was present in the spill area. This spill was not reportable at the Federal level.

No cyanide releases that are or that cause applicable limits for cyanide to be exceeded in the last 3 years. In case of occurrence, it would be included in the Annual Report.

If a cyanide event were to occur, communication to the public would be made per the Crisis Communication Plan within the Crisis Management Plan. Forms of public communications may include press releases, interviews, regulatory reporting, and inclusion of the event in the Annual Report.

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