

International Cyanide Management Code Mining Operation Initial Certification Audit

Summary Audit Report

Report Prepared for

Castle Mountain Mine

Equinox Gold Corp.

115575 Hart Mine Road
Ivanpah, California 92364



Report Prepared by



Mountain Valley Professionals, LLC

MVP Project NO. P-EG-CM2022.38b

March 15, 2024

Castle Mountain Mine

International Cyanide Management Code

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MVP Project # P-EG-CM2022.38

March 15, 2024

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Operational Contact

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Location and Description of the Operation

Castle Mountain Gold Mine (CMM) is an open-pit heap leach gold mine located in San Bernardino County, California, USA, located 60 miles (100 km) directly south of Las Vegas, Nevada. The Project is in a high desert area near the Mojave National Preserve and Castle Mountains National Monument (See Figure 1).

Year-round road access is available from the city of Las Vegas, Nevada approximately 70 miles (113 km) by road north of the Project.

Equinox Gold Corp. (Equinox) acquired CMM in December 2017 and completed a pre-feasibility study in 2018 with the intention of restarting operations. The pre-feasibility study outlined a two-phase development plan, with annual average gold production of approximately 30,000 ounces during Phase 1 using existing operating permits, and a Phase 2 expansion to more than 200,000 ounces of gold per year.

Phase 1 construction activities commenced in October 2019 and in November 2020, CMM announced commercial production for the Phase 1 heap leaching operations. The project is being developed in a phased ramp-up scenario, starting with heap leaching of stockpile material using existing operating permits, and then a Phase 2 which will include standard open pit mining, 3-stage crushing, comminution, agglomeration and Carbon-in-column (CIC) processing.

The Phase 1 project, completed in 2020 and currently operating, consists of a double-lined run of mine (ROM/crushed and agglomerated) heap leach facility.

Phase 1 operations activities and site infrastructure includes:

- Open Pit Mining;
- Administration and modular mine offices;
- Maintenance Shops;
- Water Supply System;
- Haul Roads;
- Crushing and agglomeration;
- Run of Mine/Crushed Material Heap Leach Pad;
- Solution Distribution System; pumps, sumps, pregnant and barren tanks, and miscellaneous piping;
- A 24 Million gal (90 ML) lined event pond; and,

Phase 1 processing plant which includes:

- Solution handling pumps, solution storage tanks a carbon column plant; and,
- Cyanide mixing, unloading and storage area.

Cyanide Facilities

The current operation consists of a run-of-mine/crushing and agglomeration heap leach operation with gold recovery in carbon columns. Loaded carbon is shipped to the Equinox Gold Mesquite Mine for processing. CMM cyanide facilities are:

- Run of Mine/Crushed Material Heap Leach Pad;
- Solution Distribution System; pumps, sumps, pregnant and barren tanks, and miscellaneous piping;
- A 24 Million gal (90 Million Liters) lined event pond; and,

Phase 1 processing plant which includes:

- Solution handling pumps, solution storage tanks a carbon column plant (CIC);
- Reagent grade cyanide distribution system; pumps, pipes, and valves; and,
- Cyanide mixing tank, unloading facilities and storage/distribution tank.

CMM receives dry briquette cyanide in bulk International Organization for Standardization (ISO) containers, which are mixed upon delivery, no dry cyanide storage exists at CMM. Dry cyanide is mixed with a prepared solution on site and off-loaded into a dedicated cyanide storage tank.

Two uses of cyanide at gold mines not presently evaluated under the Code include management of cyanide in laboratories and management of cyanide in gold refining. Therefore, the CMM assay and metallurgical testing facilities are currently excluded from Code requirements and were not part of this audit.

Figure 1 - Flowsheet of Heap Leach Pad and Ponds

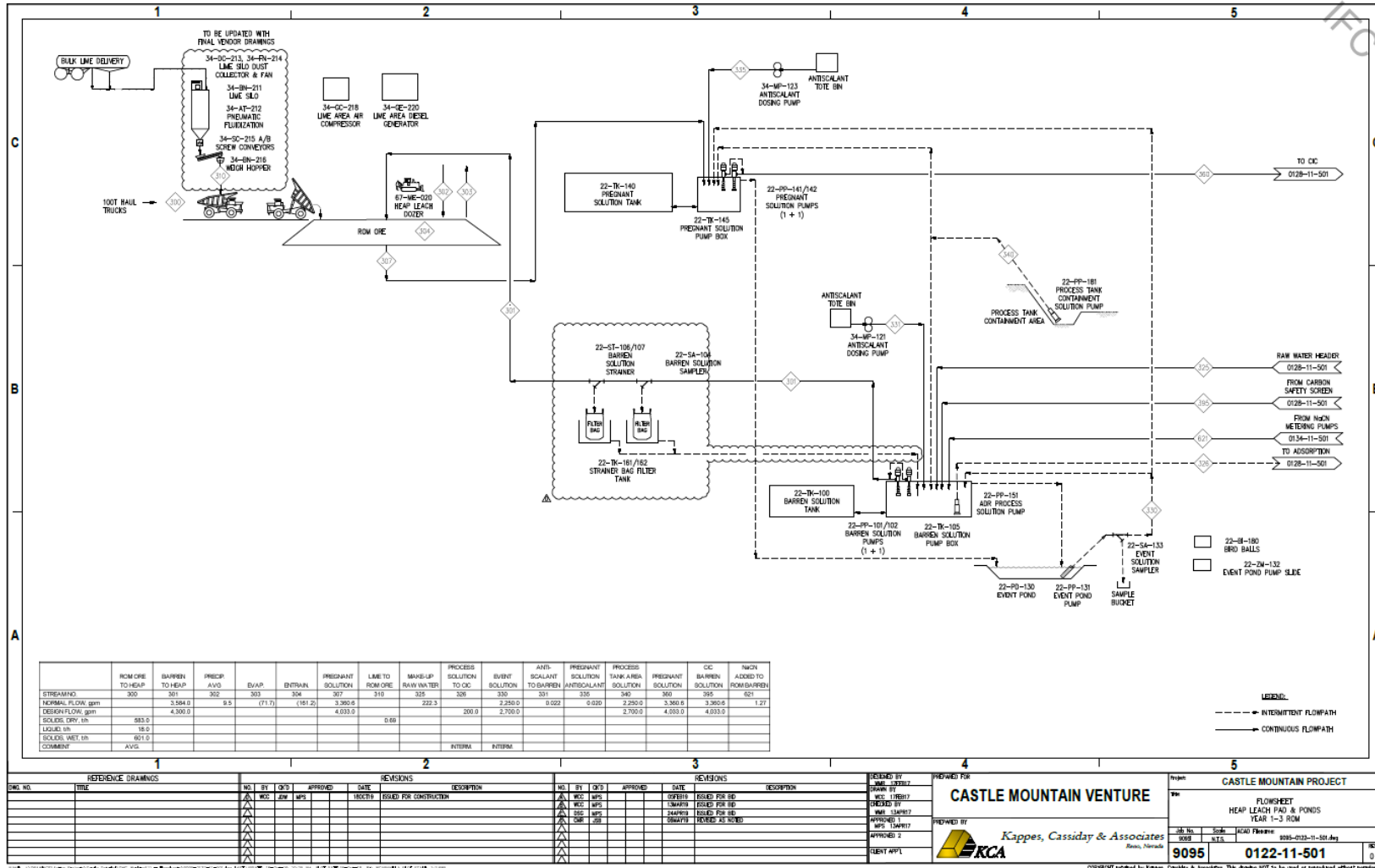


Figure 2 - Flowsheet for Carbon Adsorption Columns

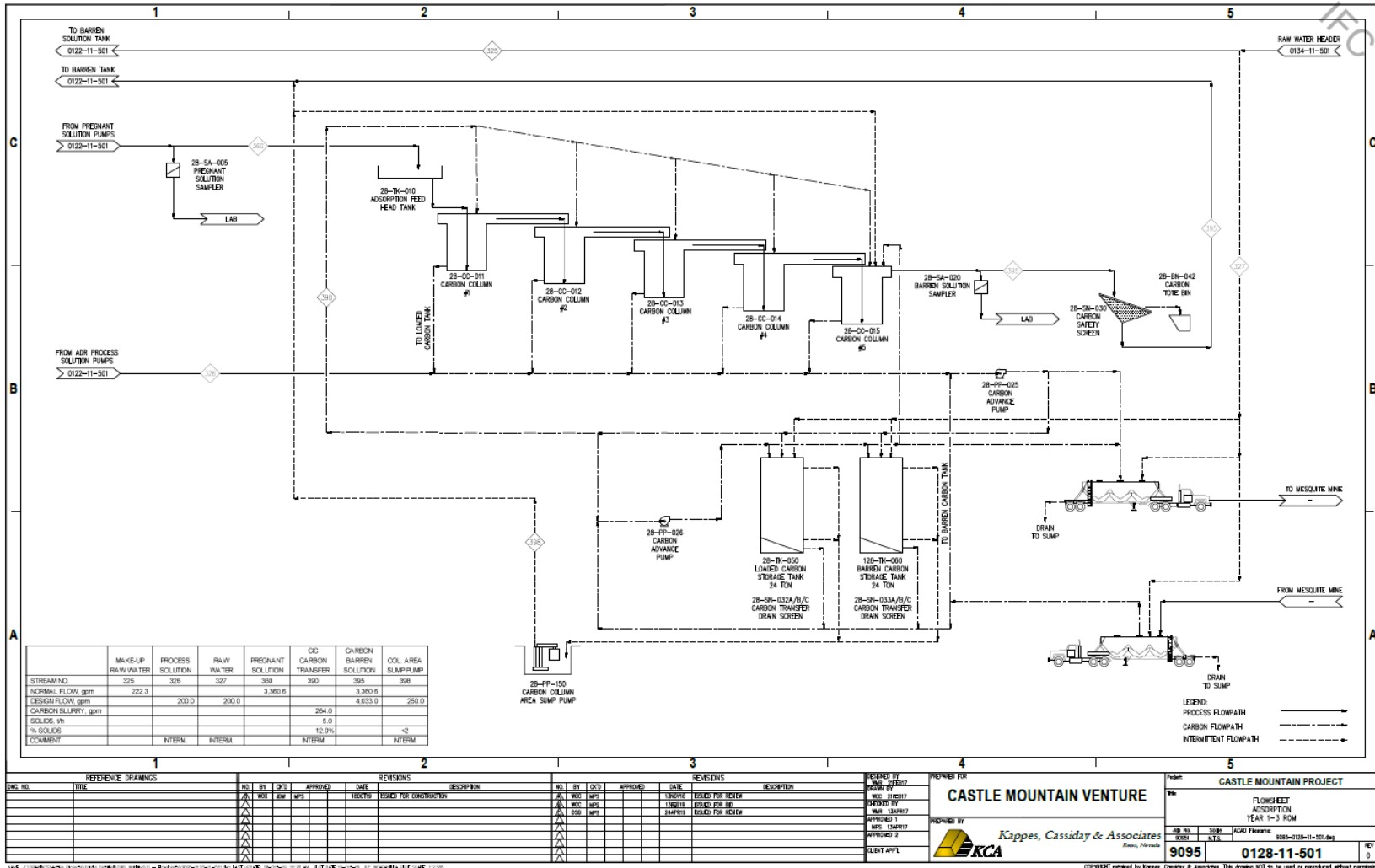
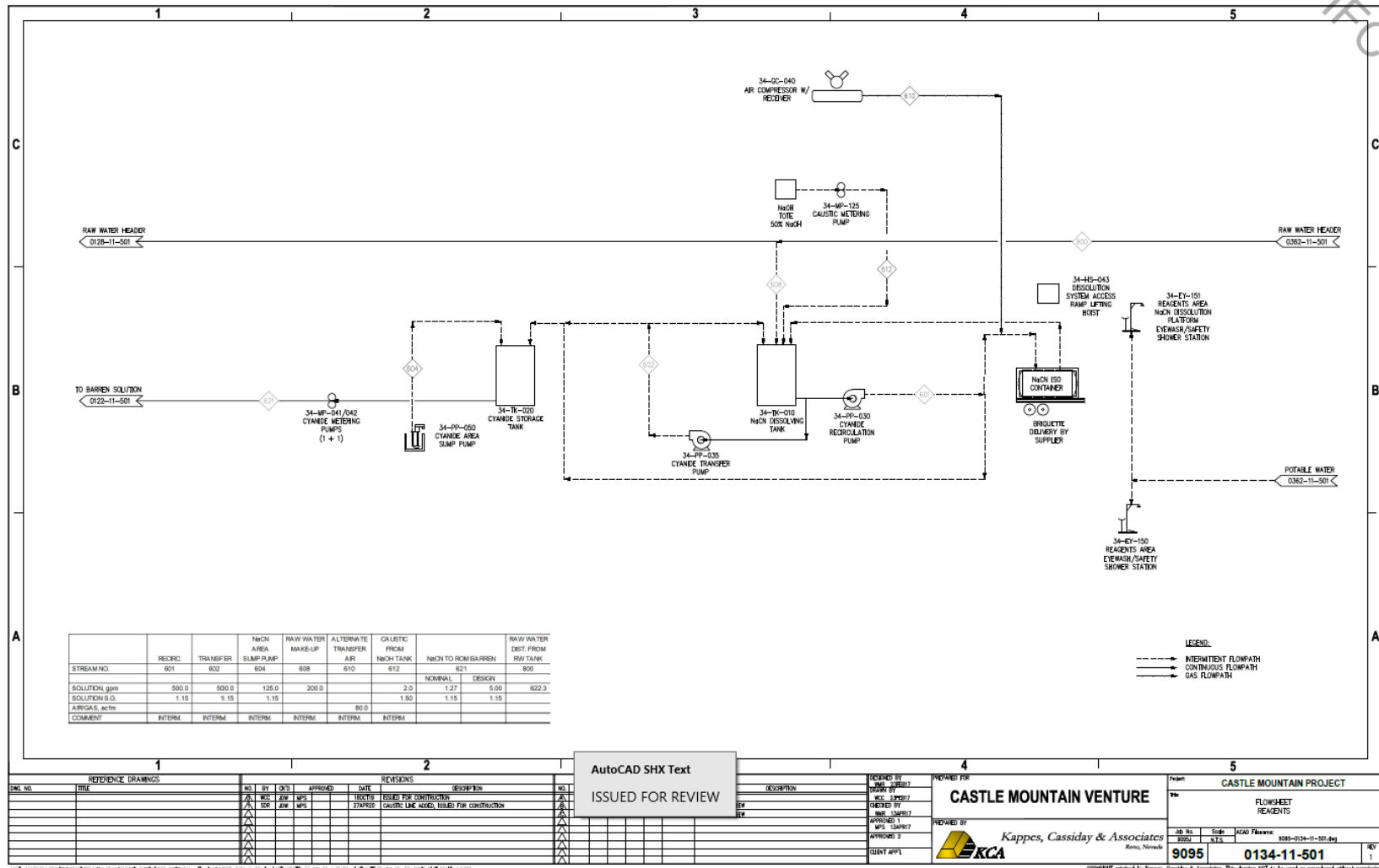


Figure 3 - Flowsheet for Cyanide Mixing, Unloading, and Storage



Castle Mountain Gold Mine

Name of Mine

[Signature]
Signature of Lead Auditor

March 15, 2024

Date

AutoCAD SHX Text
ISSUED FOR REVIEW

DESIGNED BY KMC/JRS/STP	PROJECT CASTLE MOUNTAIN VENTURE	PROJECT CASTLE MOUNTAIN PROJECT
DRAWN BY KMC/JRS/STP	CLIENT Kappes, Cassidy & Associates KCA	NO. FLOW SHEET REAGENTS
APPROVED BY KMC/JRS/STP	DATE 02/29/24	ISSUE NO. 0134-11-501
CLIENT APPL	SCALE AS SHOWN	REV 1

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Auditor Information

Castle Mountain Mine

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

**The
International
Cyanide
Management
Code**

The auditor has determined that the Castle Mountain Mine is in **Full Compliance** for this ICMC audit.

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Lead Auditor & Mining Technical Auditor

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Audit Dates

The site visit for the Initial Certification Audit was undertaken over 4 days from July 17th – 20th, 2023.

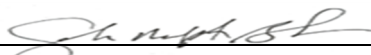
I attest that I meet the criteria for knowledge, experience, and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management 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 (2021) and using standard and accepted practices for health, safety, and environmental audits.

Date: March 15, 2024
Operation Name: Castle Mountain Gold Mine
Signature of Lead Auditor: 

Castle Mountain Gold Mine

Name of Mine


Signature of Lead Auditor

March 15, 2024

Date

PRINCIPLE 1 – PRODUCTION & PURCHASE

Encourage responsible cyanide manufacturing by purchasing from manufacturers that operate in a safe and environmentally protective manner.

Standard of Practice 1.1 **Purchase cyanide from 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 with** **Standard of Practice 1.1**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

Castle Mountain Mine (CMM) purchases dry sodium cyanide briquettes from the Cyanco Company, LLC (Cyanco). The cyanide purchasing agreement (January 1st, 2020) and amendment (January 2023), which extends the contract to the end of 2026, requires that Cyanco remain a signatory to the Code and that the cyanide supplied by Cyanco is manufactured only at facilities certified as being in compliance with the Code. Cyanco and its transporters (i.e., the entire supply chain) are certified in full compliance with the Code.

Based on review of the Cyanco Chain of Custody's and Bills of Lading's, CMM has purchased cyanide exclusively from the Cyanco Winnemucca plant during the audit period. Cyanco is a signatory to the Code and has been recertified as fully compliant under the Code. The Cyanco Winnemucca plant was certified originally as Code fully compliant on October 11th, 2006, and was most recently certified on January 13th, 2023.

PRINCIPLE 2 - TRANSPORTATION

Protect communities and the environment during cyanide transport.

Standard of Practice 2.1

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

The operation is

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

Standard of Practice 2.1

Summarize the Basis for this Finding or Deficiencies Identified:

Dry cyanide briquettes are shipped directly from the Cyanco Winnemucca production plant directly to the CMM site by TransWood Inc. (TransWood). TransWood is responsible for the mixing and offloading of cyanide at the CMM off-loading facilities.

The purchase contract between CMM and Cyanco states that the Seller is responsible for packaging, labeling, storage prior to shipment, evaluation and selection of transportation routes, transportation to the delivery location, mixing and unloading at the delivery location, safety and maintenance of the means of transportation throughout transport, task and safety training for transporters and handlers throughout transport, security throughout transport and emergency response throughout transport, all in accordance with applicable Principles, Standards of Practice, performance goals, audit recommendations, and certification requirements of the International Cyanide Management Code (ICMC).

Review of the Bill of Ladings from January 2020 to July 2023 verify that CM cyanide supply has been exclusively from the Cyanco Winnemucca Production facility and exclusively transported by TransWood, Inc. out of the Winnemucca Terminal.

Cyanco provided the "Equinox Castle Mountain Sodium Cyanide Supply Chain of Custody" (November 2022). The Chain of Custody confirmed the supply chain logistics and that no intermediaries are included in the supply chain.

The TransWood, Inc. Winnemucca Terminal Operations have been found in full compliance with the ICMC since they were first certified on October 11th, 2006. The current Re-Certification was completed on November 30th, 2022, and the facility was found to be in full compliance to the ICMC.

PRINCIPLE 3 – HANDLING & STORAGE

Protect workers and the environment during cyanide handling and storage.

Standard of Practice 3.1

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

The operation is

in full compliance with

in substantial compliance with

not in compliance with

Standard of Practice 3.1

Facilities for unloading, storing, and mixing cyanide have been designed and constructed in accordance with cyanide producers’ guidelines, applicable jurisdictional rules, and/or other sound and accepted engineering practices.

CMM receives cyanide in bulk ISO containers. The mixing and off-load facilities are located outside adjacent to the cyanide mixing and distribution tanks. The cyanide mixing and offload pad is constructed as an integral part of the storage and mixing tank containment. The mixing and offload area consists of reinforced concrete apron with perimeter curbing, connected to the mixing and storage containment via gravity flow. The cyanide unloading and mixing facilities were designed by professional engineers registered in the state of California. Additionally, quality control and quality assurance programs were conducted during construction and as-built documentation was developed and submitted to the jurisdiction for final approvals. California registered Professional Engineer’s reviewed and stamped the as-built reports.

The 2020 Risk Management Plan was prepared in accordance with the California Accidental Release Prevention Program (Cal/ARP) regulations. The cyanide off-load and storage facilities are designed in compliance with recognized and generally accepted good engineering practices, installed under permit through the San Bernadino County Building Department, and the installation meets the California Building Code.

The Castle Mountain Mine site is remote with no off-site communities located nearby that could potentially be affected by a cyanide release. Offices where personnel are present are located away from the mixing and unloading areas. The process control room is located in the vicinity of the mixing and unloading area but is not continuously occupied during mixing and unloading activities.

The unloading and storage areas reside within the secured mine facility, which is surrounded by an eight-foot-tall chain-link fence topped with razor wire. Security personnel staff guard the main entrance to the mine site 24 hours per day, seven days per week. No surface water bodies are located in the immediate vicinity of the Castle Mountain Mine.

The cyanide mix and distribution tanks are located within a common, concrete, secondary containment area. The containment area consists of a reinforced concrete slab surrounded by 4- to 5 ft-high concrete walls. The two tank foundations are solid mass, concrete pedestals, which provide an impermeable barrier between the tank bottoms and bare ground (soil). During the field component of this ICMC certification audit, the containment was in good repair.

CMM has installed an automated electronic level monitoring controller system with independent overflow protection for the cyanide storage tank A standard operating procedure has been developed for the level monitoring probe and this has been included in the site preventive maintenance program, which requires quarterly maintenance.

Cyanide is transported to site by TransWood dedicated mixing personnel who deliver directly to the area where the dissolution process takes place with the mix tank system.

TransWood mixing personnel then return the rinsed and emptied ISO to the ISO dry storage area.

- a) Storage of solid cyanide is not present at CMM.
- b) The cyanide ISO off-load area and liquid storage facilities are located outside in an open-air environment. Cyanide storage consists of an isolated bermed area with closed top, carbon steel, cyanide mix, and distribution tanks. Therefore, adequate ventilation exists to prevent the build-up of hydrogen cyanide gas.
- c) An eight-foot-tall chain-link fence topped with razor wire surrounds the entire CMM site, and security personnel staff guard the main entrance to the site 24 hours per day, seven days per week. The ISO off-load and liquid storage facilities are located within the fenced perimeter and signage warning of cyanide is prominently displayed.

Additionally, CMM has installed blind flanges on the drain valves and other maintenance-type valves at the cyanide mix tank and distribution tank to prevent inadvertent opening and potential exposures.

Only properly trained and authorized personnel have access to the cyanide storage areas, off-load area, and facilities.

- d) The antiscalant used at the CMM is acidic and it is supplied and stored in 1 cubic meter totes contained within a separate area, a ~42-inch-tall containment wall and separate sump area. The area provides full secondary containment for the antiscalant and serves to adequately segregate the potential for reagent cyanide entering the antiscalant containment area. CMM does not store any other incompatible materials at the off-load and storage areas of the plant.

Standard of Practice 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 with** **Standard of Practice 3.2**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM receives solid cyanide exclusively from Cyanco delivered via the ISO system. In all cases, the cyanide product is delivered by TransWood to the off-load area. The TransWood driver/operator is responsible for mixing and offloading the cyanide. Once the off-load is complete the TransWood driver/mix operator will transport the empty and rinsed ISO back to the manufacturer for reuse.

CMM’s written off-loading procedures require that the TransWood driver/mix operator rinse any residual cyanide from the ISO following off-load events. Discussions with the driver/mix operator, review of procedures during an off-load event, observation during the field component of this ICMC certification audit, provided verification that the driver/mix operator rinses the hose connections on the ISO, ensures that the ISO is free of cyanide residue, and washes down the concrete containment pad following off-loads.

CMM has developed Standard Operating Procedures (SOP’s) on operation and maintenance of the cyanide off-load, mixing, and storage equipment. In addition, each shift, CMM operators perform inspections of the entire Plant and record the results on the “CIC Plant Daily Inspection Form”. The daily plant inspections cover emergency systems (i.e., fire extinguishers, first aid equipment, the cyanide antidote kit, shower/eyewash stations and Safety Data Sheets (SDS)), PPE, pipes, pumps, tanks, and other equipment.

CMM has developed and implemented written operating procedures to prevent exposure and releases during cyanide off-loading and mixing activities.

The "Equinox Gold" SOP for "Sodium Cyanide Unloading" and "Transferring NaCN" include systematic instructions for connecting hoses and operating pumps and valves during the off-load, mixing, and transfer of cyanide for each system.

The site receives cyanide in ISO containers that are designed against incidental puncturing and damage during handling. The transporter, TransWood handles all ISO movements and is trained in the proper handling of ISO containers.

The CMM off-loading SOPs also provide general procedures for responding to leaks, overflows, or other incidents involving the off-load of cyanide. The CMM operator and TransWood driver/mix operator are instructed to attempt to stop the leak or spill via the emergency shutoff switch/device if possible. The delivery tank systems are equipped with an emergency shutoff device at the mix tank pump, there is a secondary emergency shutoff switch for the cyanide mix pump and the delivery trucks are equipped with an emergency shutoff device.

Additionally, the SOPs require the use of proper Personal Protective Equipment (PPE) and require a qualified spotter (CMM operator) to be present during the entire off-load process. TransWood driver/mix operators follow the written procedures and perform routine inspections of the off-load facilities and safety equipment prior to and throughout the off-load process. The Cyanco contract requires that dye be added to the solid packaging prior to shipment.

Addition of colorant dye is the responsibility of the manufacturer and is included in the manufacturers packaging during loading at the manufacturer's facility, no colorant dye addition occurs at the site. The cyanide producer includes the noted colorant dye with the solid cyanide briquettes inside the ISO containers for the purpose of providing clear visual identification and clear differentiation of the resultant liquid cyanide solution (once mixed) from other solutions or rainwater that may be present.

PRINCIPLE 4 – OPERATIONS

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

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

The operation is **in full compliance with** **Standard of Practice 4.1**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM has developed and implemented written management plans and procedures describing the standard of practice necessary for the safe and environmentally sound operation of the cyanide facilities.

These documents cover the CMM cyanide facilities and provide measures for managing cyanide in a manner that prevents or controls releases to the environment and exposures to workers and the community. The SOPs identify required PPE and the risks involved with the operating tasks, and adequately describe safe work practices. Additionally, the regulatory permits for CMM stipulate operating requirements for the process facilities.

The operation has plans and procedures that identify the assumptions and parameters on which the facility design was based and any applicable regulatory requirements as necessary to prevent or control cyanide releases and exposures consistent with applicable requirements. The CMM heap leach solution system is designed to accommodate all solution with a pregnant and barren tank and operate the solution event ponds as empty to accommodate the design storm event. In addition, designs and permits indicate the maximum pond levels.

Specific pH and Weak-acid dissociable (WAD) cyanide concentration targets have been developed for process solutions and reagent grade cyanide to limit exposure to workers. The operating procedures for CMM include the operational requirements for all tanks, valves, pipes, and other equipment with regard to elements such as flow, levels, pH, and cyanide concentrations.

The CMM plans and procedures describe the standard of practice necessary for the safe and environmentally sound operation of the cyanide facilities, including the specific measures needed for compliance with the Code. CMM has developed and implemented inspection and preventive maintenance programs for cyanide facilities including cyanide unloading, mixing and storage facilities, the heap leach pad and ponds, CIC circuit, and plant. Inspections are conducted on a shift, daily, weekly, monthly, and annually depending on the area inspected and type of inspection. CMM’s preventative maintenance software platform SAP is used to identify, assign responsibility, schedule, and track the completion of the preventive maintenance activities and repairs. Records for the preventative maintenance are saved electronically in a dedicated, internal share site.

CMM uses an informal process to review any process changes or modifications that could impact worker safety, and to incorporate necessary changes into training, SOPs, risk control, and inspection procedures. CMM utilizes daily, weekly, and monthly meetings (staff, safety, project, etc.) to identify when changes processes or operating practices may increase the potential for releases. This allows site to incorporate any necessary release prevention measures into the proposed changes.

Discussions with CMM personnel during the audit confirmed the informal process was being implemented. However, during this audit, CMM recognized the need for a formal change management procedure. The CMM Change Management Procedure was developed and includes procedures for site wide changes.

The procedure defines change as any administrative, physical, operational, or organizational modifications, alterations or substitutions to a system, a process, plant, or equipment, whether temporary, permanent or for an emergency purpose.

The procedure includes risk assessment criteria, forms, and a Change Management Approval Request Form that must be signed/approved by the Environmental Manager, Health & Safety Manager, Mine Manager, VP & General Manager, Process Manager, Human Resources Manager, and Community Relations Manager.

In accordance with the California Regional Water Quality Control Board, Colorado River Basin Region (RWQCB) Order, Attachment F Monitoring and Reporting Program associated with the Waste Discharge Requirements, CMM conducts routine sampling and monitoring of the cyanide facilities. The referenced plan includes monitoring of precipitation, pond levels (freeboard monitoring), tank levels vs. design containment capacity, groundwater and vadose zone monitoring of wells and routine inspections of the leak detection systems installed in the leach pads and ponds and an Interim Management Plan for the site has developed while the mine is non-operational status. These contain contingency procedures and actions that would be implemented due to non-standard operating conditions.

he environmental and operational inspection programs and frequencies have been developed and implemented. These programs involve inspections conducted for each cyanide offload/mix event, two area inspections per day (i.e., each shift), monthly, and semi-annually. In addition to the mandatory inspections, the Environmental and Health & Safety departments perform monitoring and inspections as well. The Heap Leach Pad Inspection and CIC plant Daily Inspection reports are conducted each shift and include leaks, spills, presence of ponding on the pad, solution within containments, wildlife presence and mortalities on the leach pads. In addition, the CIC plant Daily Inspection reports include visual inspections of pipelines, valves, pumps, containment condition and other key aspects; leaks, corrosion, ponds, pond freeboard, ditches for maintenance of the water balance and ensure operational conditions are aligned with the design parameters.

In the auditor's professional opinion, the inspection frequencies described above are sufficient to assure and document that the cyanide facilities are functioning within design parameters.

The CMM inspection forms and checklists include the date of the inspection, the name of the inspector, and observed deficiencies. In almost all cases, the inspection forms provide a section to record assignment of corrective actions and the completion date.

The auditor verified that CMM retains records of the noted inspection forms and checklists for the period reviewed by the auditor.

CMM manages its process maintenance program using SAP® software, which automatically produces preventative maintenance Work Orders on an established schedule. Work Orders for maintenance work, including maintenance on cyanide-related equipment, are currently in two forms; hard copy and electronically on the SAP® system. During this audit, the auditor reviewed representative maintenance records in the form of hard copy and from the system for the cyanide facilities. Additionally, random maintenance items requiring Work Orders were tracked through the system to verify completion.

CMM has identified critical equipment related to the safe management of cyanide solutions. Process Maintenance performs a weekly inspection of equipment located at the CIC plant including the cyanide offload and storage area and barren/pregnant pumps. The inspected equipment primarily includes pumps and monitors and CMM documents the inspections in the system. Pumps include those for barren solution, pregnant solution, cyanide mixing and addition, and sump pumps. Checks include guards, seals/packing, oil levels, leaks, unusual noise, and hours of operation.

CMM main power for the processing plant is supplied by a group of four Caterpillar generators, two generators are required to supply power to the processing plant and two are always on standby.

The power generation system is equipped with electronic monitoring and automatic generator switching, that rotates the four generators such that the hours of operation for the generators are kept consistent. CMM maintains two standby generators as emergency generators on site as well as redundant pump systems and other critical equipment to manage solution flows in the event of power outages.

CMM performs routine electrical and mechanical maintenance inspections on the generators. Maintenance personnel check for leaks, check the batteries, and take occasional oil samples monthly. During this audit, the auditor reviewed maintenance records and inspections for the four generators.

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

Summarize the Basis for this Finding or Deficiencies Identified:

CMM processes ore by ROM and crushed ore heap leaching, as such, no mill processing, nor tailings are utilized.

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

The operation is **in full compliance with** **Standard of Practice 4.3**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM has developed a comprehensive probabilistic water balance model, using Microsoft Excel® software, to predict system performance during the active life of the project. Specifically, the model was prepared for two primary purposes:

- To predict freshwater use from the CMM water wells, for make-up requirements for the leaching circuit under average precipitation conditions using solution application by either wobbler spray or buried drip emitters; and,
- To verify the adequacy of existing solution pond capacities, given various operating and climatic conditions.

The CMM cyanide water management components include:

- Heap leach pad;
- Synthetic lined ditches;
- Pregnant tank (400k gallons);
- Barren tank (225k gallons);
- Process Tank Pond (3.3M gallons);
- Event pond (19M gallons at freeboard and 22.5M at crest); and,
- Adsorption Desorption Recovery facility.

CMM cyanide water management components (listed above), are managed such that cyanide solutions are fully enclosed in covered tanks, vaults, and pipelines except for the CIC's and application of solution to the pad. The process tank and event ponds are required by jurisdictional permit to remain empty, except for freshwater, stormwater runoff, or direct precipitation, to limit wildlife exposure to cyanide solutions.

The CMM water balance model is designed for a solution application rate, average precipitation and evaporation rates, and planned ore placement rates.

The water balance is updated with field monitoring data on a monthly basis to reflect seasonal variations in precipitation and evaporation. The model is designed to accommodate periodic updates during actual heap operations and to incorporate additional pad phasing, pond storage fluctuations, and climatic variations from computed averages for projected operational control of solutions.

Inflows to the water balance system include:

- moisture in the mined ore;
- precipitation on all lined areas; and
- required freshwater make-up.

The CMM water balance operates as a net evaporative system; i.e., under environmental processes, more water exits the system than enters the system.

Evaporation from the system occurs from the surface of the heap leach pad. In order for the leaching circuit to operate correctly, additional freshwater must be introduced into the system. The model tracks internal flows from the CIC plant to the heap leach pads and from the heap leach pads to the plant through the Barren and Pregnant tanks. The CMM environmental department manages the water balance model with support from the Process Supervisor.

The water balance considers the rates at which solutions are applied to active areas of the heaps and the modeled area under leach. In accordance with the Waste Discharge Requirements, the Event Pond must be designed to contain runoff generated by a 24-hour/100-year storm and 24-hours of draindown volume from the heaps, while providing two feet of freeboard. The CMM water balance modeled various storm events and uses the most significant event, which was 24-hour/100-year event. According to design documentation, the pond system is sized to contain runoff from the 100-year, 24-hour event and 24 hours of draindown volume from the heap/s, while providing two feet of freeboard.

Average rainfall and pan evaporation data collected at the Searchlight, Nevada and CMM weather stations over the period 1988 to mid-2023 was input to the model to account for water in the system, prior to the occurrence of the modeled event. Searchlight is located approximately 18 miles northeast of CMM site.

The CMM water balance operates as a net evaporative system; i.e., under environmental processes, more water exits the system than enters the system. In order for the leaching circuit to operate correctly, additional fresh make-up water must be introduced to the system. CMM collected precipitation data from an on-site meteorological station and entered this data into the operational water balance model during the periods 1992 – 2005 and 2018 – mid 2023. The operational water balance model compares collected data to design assumptions, analyzes trends in climate data and revises SOPs as necessary.

Freezing and thawing conditions are not a factor at CMM.

Stormwater diversion structures and earthen berms are constructed around the perimeter of the heap leach facilities to prevent runoff from upgradient watersheds from entering the lined areas. Therefore, the water balance model only considers direct precipitation falling onto the lined areas as precipitation that would enter a pond.

The CMM operation is a “zero-discharge facility” (closed system). Conservatively, the only loss considered by the water balance model, other than evaporation, is the moisture consumed in raising the moisture content in placed ore to the heap stack field capacity (i.e., the moisture level in the ore above which unsaturated flow/leaching occurs). The model considers evaporation from application on the heap, from the heap surface, and from process pond water surfaces.

CMM power is from four generators at the CIC plant as primary power source. CMM operates two generators at all times and maintains two as a backup power source. Furthermore, the pond system is sized to contain runoff from the 100-year, 24-hour event and 24 hours of draindown volume from the heaps, while providing two feet of freeboard. Therefore, the water balance model itself does not directly consider the effects of power outages or equipment failures.

In addition to those parameters discussed above, the CMM water balance model considers varying application losses (from pumping rate) for wobblers and drip systems and conservatively assumes instantaneous reporting of precipitation to the pond system.

The pond system is sized to contain runoff from the 100-year, 24-hour storm event (5.02 inches) and 24 hours of draindown volume from the heaps, while providing two feet of freeboard. The water balance uses the design of the pregnant tank, barren tank, tank pond, and event pond with no nominal operating volume in the two ponds.

The water balance is updated weekly or after significant precipitation events to determine if stormwater reporting to the pond system will compromise the available volume for containment in the event of the 24-hour/100-year event.

CMM Process personnel check water/solution levels in the Event Pond and Tank each shift (two times per 24-hour period) and record their observations on the CIC Plant Daily Inspection Form.

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 4.4**
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

An eight-foot-tall chain-link fence topped with razor wire surrounds the entire CMM site. In addition to restricting public access, the fence is designed and regularly maintained to prevent access to the site by desert tortoise and larger terrestrial wildlife. There is no livestock in close proximity to the mine site. The perimeter fence line is inspected on a weekly basis by the Environmental Department staff.

The processing circuit at CMM is designed such that pregnant or barren solutions are in large tanks, as such, cyanide solutions are not accessible to wildlife. In addition, pregnant collection areas and conveyance systems are either filled with gravel or introduced into pipes to limit wildlife access to cyanide solutions.

The Event Pond, while intended for stormwater runoff from the heap leach pad that may occur during storm events, has bird balls for avian protection. Additionally, the Event and Tank ponds are required to be maintained empty of solution. CMM pumps solution captured in either the Event and/or Tank ponds back into the process circuit as soon as possible. If necessary, excess solutions from the CIC plant are also conveyed to the barren pump box via a synthetic lined overflow ditch located between the plant and the pump box at the Tank Pond.

CMM utilizes buried drip emitters, which limits open waters on the heap leach pad during solution application. CMM site has been designed, constructed, and is operated such that open water is not present in any of the cyanide facilities.

Visual observations of the facilities and review of inspections for the facilities verified that the Event and Tank ponds are maintained empty. Additionally, the Event Pond has bird balls to exclude open waters. Heap collection areas are covered and solutions are conveyed in enclosed piping systems.

CMM Environmental personnel indicated that there were no wildlife mortalities in the CIC plant area, ponds or collection areas during 2021, 2022, or 2023. The auditor reviewed "Wildlife Mortality Reports" completed over this period as further verification.

CMM uses drip emitters, to apply leach solution to the tops of the heaps. The drip emitters are buried beneath the surface of the ore and effectively eliminate overspray. CMM indicated that minor ponding issues are common. CMM has standard operating procedures to ensure that operators identify and remediate ponding conditions when they occur on the heaps.

CMM Pad operators are trained to monitor wildlife activity and mortalities, and to inspect heap leach facilities for ponding on a routine basis.

During field verification, the auditor observed limited areas of ponding on the heap and temporary netting, or other methods such as reduced flows to reduce pooled solution had been employed. Upon review of the daily inspection records, the operators had noted ponding on the heap on multiple days/shifts and consistently documented corrective actions and corrective action effectiveness.

CMM utilizes mechanical and electronic deterrents at the top of the heap leach pad: "cannons", specialized lasers that are reported to simulate "predators" and netting.

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

Summarize the Basis for this Finding or Deficiencies Identified:

CMM is designed and operated as a zero-discharge facility (closed system) with no direct discharge to surface water. No surface water bodies exist in the immediate vicinity of CMM.

The site is located within a closed hydrologic system in which surface drainage flows to an internal point or sink and subsequently evaporates. Precipitation runoff, which occasionally occurs in the normally dry washes that transverse the site, the flows that occur in these washes percolate into the shallow, loose wash bottom soils, and/or evaporate.

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

Summarize the Basis for this Finding or Deficiencies Identified:

The CMM process is designed and operated as a zero-discharge facility (closed system). The project construction and operation include a number of seepage control technologies such as a double composite liner system at the heap leach pads, composite liner systems with leak detection systems at the ponds, lined containment channels for solution pipelines, and concrete secondary containment in process areas.

CMM conducts regular inspections and monitoring of all process facilities to ensure that the operating criteria are being met. Routine visual inspections of the concrete secondary containments at the CIC plant, the liner systems in the collection and containment channels and at the ponds, are performed to ensure physical integrity of these protective systems. Additionally, CMM routinely monitors a network of vadose zone wells in the leach pad areas, the Leachate Collection and Recovery System (LCRS) at the ponds, and groundwater wells both upgradient and downgradient of the process facilities.

Groundwater across the CMM site ranges between approximately 350 to 600 feet below ground surface (according to waste discharge requirements) and flows in a north-south flow direction. According to the waste discharge requirements, the process facilities are located in an area where the depth to groundwater ranges from 166- to 535-feet below ground surface.

The make-up water supply for the operation is derived from well fields (East and West) with the East Well Field providing the majority of the process area make-up water.

The Water Quality Control Plan for the Colorado River Basin Region of California was adopted on November 17th, 1993, and designates the beneficial uses of ground and surface waters in this Region.

The facility is located in the Lanfair Hydrologic Area of the Homer Hydrologic Unit.

Beneficial uses of groundwater for the Lanfair Hydrologic Area are Municipal Supply, Industrial Service Supply, and Agricultural Supply.

CMM conducts groundwater monitoring in accordance with the RWQCB Monitoring and Reporting Program stipulated by the waste discharge requirements.

In total, three groundwater wells are monitored for Total cyanide concentrations, two of which are located downgradient of the process facilities.

CMM currently samples the wells semi-annually.

Analytical results are reported to RWQCB semi-annually and annually. CMM also monitors the vadose zone semi-annually for the presence of moisture.

During this ICMC certification audit, the auditor reviewed semi-annual groundwater monitoring reports, submitted to RWQCB over the audit cycle (2021-2023), and the CMM water quality monitoring data based. Results indicate that total cyanide concentrations for all samples were below the jurisdictional protection limits. WAD cyanide is not analyzed or reported. The auditor reviewed monitoring logs and CMM personnel indicated that no solution has been encountered in the vadose monitoring points.

CMM is an open pit operation, so no underground mining is present at the site.

CMM has not experienced cyanide seepage over the period between 2018-2023 that would cause cyanide concentrations in groundwater to rise above the protective standard.

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

The operation is **in full compliance with** **Standard of Practice 4.7**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

All cyanide mixing, storage, and process tanks at CMM operation are provided with concrete, secondary containment to capture drips and leaks. During the field component of this 2023 ICMC certification audit, the concrete containments were in good repair. No ring beam foundations have been installed at the CMM processing facilities.

At the CIC plant, CIC tanks are supported above the concrete floor on steel structures that are set on solid mass concrete pedestals. The cyanide mixing and storage tanks are placed on solid mass concrete pads. The entire process area provided for the carbon columns is a reinforced concrete pad with a perimeter curb. The cyanide mix and distribution tanks are located within a common concrete secondary containment area, consisting of a reinforced concrete slab surrounded by a concrete curb. The Cyanide Mix Tank and the Cyanide Distribution Tank are mounted on solid mass, concrete pedestal foundations, which provide an impermeable barrier between the tank bottoms and the ground (soil). The secondary containment volumes for the cyanide mix and distribution are designed for 110% containment of one of the tanks, as they are equivalent size, and account for 100- yr, 24-hr event, without overflowing. This area would overflow to the CIC containment area.

The concrete secondary containments provided for the cyanide process tanks and vessels at the CIC Plant and adjoining cyanide off-load and storage facilities have concrete floor sumps with dedicated, automated pumps to collect and remove cyanide solution and slurry spillage for return to the process circuit. The containments and sumps do not have drains open to the environment.

Daily visual inspections conducted by Process personnel include the physical integrity and available capacity of the secondary concrete containments, lined areas, and ponds.

The CIC area is designed to contain 110% of one of the carbon columns and account for precipitation from the 100-yr, 24-hr event without overflowing.

The entire CIC plant secondary containment design incorporates additional secondary containment via an overflow "notch" that connects to a synthetic lined pipe containment ditch that reports to the barren pump box.

CMM demonstrated and the auditor verified the containment volumes and solution flow paths.

All process solution pipelines at the CMM operation are located within concrete or synthetic membrane lined secondary containment. Additionally, all pipelines are located above ground. There are two synthetic lined pipeline channels. One channel is for pipelines carrying barren solution from the Tank Pond (barren pump box) to the leach pad.

Once the pipelines reach the toe of the leach pad, the leach pad lined area provides secondary containment, this channel is connected to the Tank Pond and heap leach pad lining systems to form a water-tight seal. The second channel connects the CIC plant to the Tank Pond and functions as secondary containment for piping to and from the CIC plant. The channel is synthetic lined and is connected to the CIC plant and the Tank Pond to form a water-tight seal.

No perennial streams or other surface water features are located within the permitted area of CMM or in close proximity.

CMM uses carbon steel and high-density polyethylene (HDPE) piping materials and piping system components for conveyance of cyanide solutions. Cyanide storage and process tanks are carbon steel. These materials are compatible with cyanide and high pH solutions.

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

The operation is **in full compliance with** **Standard of Practice 4.8**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM implemented formal Quality Assurance and Quality Control (QA/QC) programs during construction of the following cyanide facilities:

- Heap leach pad; soil liner, synthetic liner, piping, and gravel;
- Pond system; soil, gravel, piping, and synthetic liner;
- Pregnant and barren tanks; mechanical and welded connections, coating, piping, and foundations;
- CIC and carbon storage tanks; mechanical and welded connections foundations, coatings and piping;
- NaCN dissolution and storage tanks; mechanical and welded connections, foundation, coating, and piping; and,
- Barren solution system; pumps, mechanical and welded connections, pipe routing and supports.

Detailed construction records were retained and reviewed for verification. The records included the adequacy of the earthworks, HDPE fusion welding, concrete containment, concrete footings, tank and vessel steel construction, and steel support structures.

CMM has maintained QA/QC documentation on-site. In addition, QA/QC documents were submitted to regulatory agencies in accordance with permit requirements.

CMM retained professional civil engineers registered in the State of California to monitor construction activities and prepare construction QA/QC final reports. The project engineer stamped and certified each phase of the project attesting that the project was constructed in general accordance with the approved plans and specifications. San Bernardino County Building and Safety Division conducted inspection during construction.

CMM has implemented QA/QC programs and as-built certification for all cyanide facilities.

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

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

Summarize the Basis for this Finding or Deficiencies Identified:

CMM has prepared and implemented written standard procedures for monitoring activities to evaluate the effects of cyanide use on wildlife and water quality. The "Attachment F – Monitoring and Reporting Program R7-2020-004" provides standard procedures for monitoring surface water, groundwater, and unsaturated zone detection monitoring and describes the protocol to be followed during monitoring and sampling events of groundwater wells, vadose wells, and the LCRS. The sampling procedures are in accordance with Sections 20415(E)(13) and 20380(e) of Title 27 of the California Code of Regulations. All other procedures are based on acceptable regulatory and industry standards.

CMM implements wildlife mortality reporting procedures and submits a "Monthly Wildlife Report" to the BLM each month, regardless of whether mortalities occur. The "Heap Leach Pad Inspection" is conducted each shift and includes wildlife presence and mortalities on the leach pads, where WAD cyanide concentrations typically approach or exceed 50 mg/L. During new hire training, CMM employees are trained to observe and report wildlife presence and mortalities site wide on a continuous basis.

Geo-Logic Associates, an environmental consulting firm, developed the Sample Collection & Analysis Plan (SCAP), based on the California Code of Regulations and other acceptable regulatory and industry standards. The CMM Environmental Manager and the Environmental Department personnel manage and administer the protocols. In accordance with the RWQCB Monitoring and Reporting Program, CMM must conduct water sampling and analysis according to the most recent version of standard U.S. Environmental Protection Agency (EPA) methods and use a laboratory approved by the California Department of Public Health. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and approval by the RWQCB prior to use.

The Geo-Logic personnel responsible for development of the SCAP are professional geologists registered with the State of California. Additionally, the SCAP was reviewed and approved by the jurisdiction.

Attachment F - Monitoring and Reporting Program, provides the water monitoring requirements in accordance with the Waste Discharge Requirements. Generally, the plan provides procedures for water quality sampling, sample handling, analysis requirements, and equipment decontamination. The Sampling & Analysis Plan includes a map showing monitoring details and locations, analytical profiles for the groundwater wells, and the LCRS sumps (which include Total cyanide) are also included in the plan.

The water quality sampling procedures list the groundwater monitoring wells, vadose monitoring wells, and the LCRS monitoring sumps along with the required monitoring method, monitoring frequency, and reporting frequency required for each.

These sampling procedures also include protocols for sample containers and volumes, sample labeling, sample preservation and storage, and field measurements. The sample handling procedures describe the protocol to be followed for sample custody (chain of custody requirements), packaging, and shipment. The equipment decontamination procedures describe the methods to be used for the decontamination of all reusable field equipment, which could become contaminated during use or during sampling.

CMM sends the water quality samples to an outside laboratory that is certified in the State of California for applicable analyses. The chain of custody forms specify the analyses requested for each sample. CMM maintains chain of custody records on its Environmental Data Management System.

CMM uses an outside contractor (GLA) to collect groundwater samples. The GLA field data logs record the sample date and time, weather conditions, volume purged, water level, temperature, conductivity, pH, turbidity, dissolved oxygen, color, odor, equipment used, well characteristics, and any applicable notes during sampling events.

CMM does not monitor surface water because there are no perennial streams or other surface water features located within the permitted area of the CMM operation or in close proximity.

In accordance with the SCAP, CMM monitors stormwater following significant precipitation events.

CMM conducts groundwater monitoring in accordance with the RWQCB Monitoring and Reporting Program stipulated by the Waste Discharge Requirements. In total, three groundwater wells are monitored for Total cyanide concentrations, two of which are located downgradient of the process facilities. CMM currently samples the wells semi-annually.

Analytical results are reported to RWQCB semi-annually and annually.

In the auditor's professional opinion, the CMM monitoring program is designed to adequately characterize environmental media (i.e., groundwater and stormwater quality and wildlife mortalities) and to identify changes in a timely fashion.

PRINCIPLE 5 - DECOMMISSIONING

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

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

The operation is **in full compliance with** **Standard of Practice 5.1**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM has developed written procedures to decommission their cyanide facilities at the cessation of operations. Section 3.11 of the CMM Mine Plan and Reclamation Plan includes, but is not limited to, stabilization, detoxification, and disposal measures necessary to reclaim process ponds, heap/s, and equipment.

The Mine Plan and Reclamation Plan ver.2.1 (July 2019) includes, as section 3.9, a reclamation implementation plan and generic schedule, requisite with the operational status of the site. The schedule summarizes the anticipated major decommissioning, closure, and reclamation activities and provides a high-level summary of the post operation activities for decommissioning, closure, and reclamation.

The Mine Plan and Reclamation Plan (July 2019) addresses past, current, and potential expansion projects that have occurred and/or are currently planned and requires updates to closure and reclamation procedures as required for mine expansions. CMM updates the associated closure and reclamation cost estimate annually. Additionally, CMM reviews their internal closure and reclamation estimates at least annually in accordance with their Asset Retirement Obligation reporting.

CMM updates closure and reclamation procedures as required for mine expansions. In accordance with the CMM Mine Plan and Reclamation Plan Permit, administered by San Bernardino County, CMM must submit amendments to the approved plan detailing proposed changes for approval.

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

The operation is **in full compliance with** **Standard of Practice 5.2**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM retains a consultant each year to prepare an independent third-party update of both internal and bond-level reclamation cost estimates for the Castle Mountain Mine. The 2021, 2022, and 2023 estimates provide detailed costs for final reclamation and closure of the entire CMM site, including all cyanide facilities, and incorporate all assumptions contained in the Mine Plan and Reclamation Plan ver.2.1.

In accordance with California Surface Mining and Reclamation Act, CMM prepares annual updates to its Financial Assurance Cost Estimate for submittal to San Bernardino Land Use Department - Mining. Following its review and acceptance, San Bernardino County forwards the estimate to the California Department of Conservation, Office of Mine Reclamation for final approval.

In accordance with its Permits, CMM must update the closure and reclamation cost estimate annually at minimum.

As verification, the auditors reviewed CMM copies of the Financial Assurance Cost Estimates for the years 2020, 2021, and 2022.

CMM updates closure and reclamation procedures as required for mine expansions. In accordance with the CMM Mine Plan and Reclamation Plan Permit, administered by San Bernardino County, CMM must submit amendments to the approved plan, detailing proposed changes, for approval.

In accordance with California Surface Mining and Reclamation Act, CMM prepares annual updates to its Financial Assurance Cost Estimate for submittal to San Bernardino Land Use Department - Mining. Following its review and acceptance, San Bernardino County forwards the estimate to the California Department of Conservation, Office of Mine Reclamation for final approval. In accordance with its Permits, CMM must update the closure and reclamation cost estimate annually at minimum. As verification, the auditors reviewed CMM copies of the Financial Assurance Cost Estimates for the years 2020, 2021, and 2022. CMM updates closure and reclamation procedures as required for mine expansions. In accordance with the CMM Mine Plan and Reclamation Plan Permit, administered by San Bernardino County, CMM must submit amendments to the approved plan detailing proposed changes for approval.

The CM Mine operated under the approved Mine Plan and Reclamation Plan, while maintaining three separate reclamation/decommissioning bonds.

Two of the three "Reclamation Bonds", held jointly by San Bernardino County and Bureau of Land Management (BLM), provide financial assurance for a variety of reclamation activities, including earthwork, building demolition, and revegetation. Additionally, "Closure Bonds", one held by RWQCB and one by BLM and San Bernadino County, provide financial assurance for treatment of process solution, heap leach pad detoxification, and other work to eliminate the risk of pollution (primarily to groundwater), which would include decommissioning of cyanide facilities.

The 2020, 2021, and 2022 Annual Financial Assurance submittals included bond cost estimate increases and were approved. CMM provided additional financial assurance in 2020, 2021, and 2022, which were approved each year.

PRINCIPLE 6 – WORKER SAFETY

Protect workers' health and safety from exposure to cyanide.

Standard of Practice 6.1

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

The operation is

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

Standard of Practice 6.1

Summarize the Basis for this Finding or Deficiencies Identified:

CMM has developed procedures describing how cyanide-related tasks are to be conducted. These SOPs cover cyanide-related tasks such as, but not limited to, off-loading cyanide, plant and pond operations, and maintenance activities that involve the cyanide solution circuits. The site "Safe Work Plan" program is used for risk identification and mitigation for non-routine tasks.

The SOPs describe how cyanide-related tasks are to be conducted and address required PPE. CMM conducts inspections at the beginning of each shift, which include checking operation of showers and eyewashes, equipment condition, solution leaks, and so forth. Prior to each off-load of cyanide the mix operator and the plant operator perform an inspection of the off-load facilities, which includes housekeeping, shower/eyewash stations, medical supplies; antidotes, oxygen, fire extinguishers, cyanide mix skid, tanks, valves, hoses, pipes, and PPE.

CMMs Confined Space Entry Permit and Safe Work Plan include provisions to identify the need and use of personnel protective equipment and function as pre-task analysis of potentially hazardous conditions.

CMM has daily (pre-shift) meetings with operations personnel, periodic safety meetings, task training, and holds annual safety refresher training. CMM utilizes the meetings and training sessions to provide updates and changes to cyanide and other potential operational changes. Employees are provided with the opportunity to provide input on the development and implementation of environmental, health and safety programs, procedures, and other programs.

Standard of Practice 6.2

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

The operation is

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

Standard of Practice 6.2

Summarize the Basis for this Finding or Deficiencies Identified:

CMM controls the pH levels in process solutions by adding caustic, sodium hydroxide solution at the cyanide mix tank and the CIC circuit, and by adding lime to the ore prior to loading it onto the heap leach pads. CMM personnel indicated that generally, the targeted pH levels for limiting the evolution of Hydrogen cyanide (HCN) gas are 11.5 during off-loading and mixing activities and 10.0 for barren solution going to the leach pads. The pH level for pregnant solution returning from the leach pads is approximately 9.5.

CMM has conducted an HCN survey to identify areas of the process where the potential for cyanide exposure could be significant (i.e., at the cyanide off-load area) and has implemented controls to minimize the potential for exposure of workers. CMM has installed a fixed HCN monitor in the off-load area. In addition, CMM process and mix personnel wear portable HCN gas monitors during off-load activities. Fixed and portable HCN monitors have two alarm settings. Alarm 1 is set at 2.5 parts per million and provides early warning of elevated HCN gas and allows operations the opportunity to investigate and respond to the cause of the HCN gas generation. While Alarm 2 is set at 4.7 parts per million to protect worker safety and initiates an evacuation of the area. CMM handles only sodium cyanide solution (following off-loading and mixing), and therefore the potential for exposure from cyanide dust is extremely low.

Documented standard operating procedures are also in place and signage present at the CIC plant alerts workers to hazards and specify proper PPE requirements when performing activities where the potential for exposure to cyanide exists. Workers are trained in these procedures, as well as emergency response, in the event of a cyanide release.

CMM has installed a fixed HCN monitor at the mixing and offloading. Process personnel wear portable HCN gas monitors during their entire work shift as do cyanide mix operators during off-load activities.

CMM subscribes to a sensor exchange program with the fixed HCN monitor, whereby every three months, a factory-calibrated sensor is supplied to site to replace the current sensors in the fixed HCN gas monitor. The sensors are calibrated at the factory, by factory-trained personnel, using National Institute of Standards and Technology traceable equipment in accordance with the manufacturers quality control system. Prior to using the Ventis Pro5 personal, portable HCN gas monitors, the docking station preforms a bump test each shift. The docking station automatically performs routine calibrations as required every 30 days.

During this ICMC audit, the auditor reviewed calibration records for both the fixed and personal monitors for the preceding 3 and 12 months, respectively.

CMM has installed signs advising workers that cyanide is present, associated dangers, and required PPE. During the field component of this ICMC audit, the auditor observed the placement of warning signage to be displayed in plain sight, comprehensive, and in the language of the workforce. Cyanide warning signs are posted at all approaches to the CIC plant and cyanide off-load and storage facilities, including on piping, tanks, and vessels; and at strategic locations along roads leading to the heap leach pads, process pipeline containment channels, and the process ponds. Signs prohibiting eating, drinking, smoking, and open flames are posted at the cyanide mixing and off-loading area of the CIC plant.

The purchase contract between CMM and Cyanco state that the Seller (i.e., Cyanco) is responsible for the addition of colorant dye. The auditor reviewed the delivery Bill of Ladings, which indicates the cyanide is dyed red.

The auditor reviewed the site SDS's for liquid cyanide which indicated that the liquid cyanide color was red.

During the field component of the ICMC audit, there were emergency shower stations located at the CIC plant; at the upper and lower areas of the cyanide off-load and storage facilities at key locations within the CIC plant. Each station is connected to a freshwater circuit and equipped with an eyewash unit.

Process operators check the units daily (each shift) during routine inspections and records results on the inspection forms (i.e., "CIC Plant Daily Inspection Form" and "Heap Leach Pad Inspection Form") and records were available covering inspections conducted. The auditor checked the shower/eyewash stations and all functioned properly. The eyewash fountains were at the proper height and flow pressure, and the showers had adequate flow.

The fire extinguishers spot-checked at the CIC plant were potassium bicarbonate based dry chemical (K/Dry) and the units observed had current inspection tags and were easily accessible. Only dry units are located where cyanide is handled. CMM checks fire extinguishers daily (each shift) during the above-noted routine inspections. Additionally, CMM inspects the hydrants more thoroughly each month and records observations on the "Fire Hydrant Monthly Inspection Record". Records were reviewed covering inspections conducted over this audit cycle.

CMM labels cyanide storage and process tanks and piping alerting workers of the contents and flow directions.

Labels designate the Cyanide Mix Tank and the Cyanide Distribution Tank and identify the contents of each (i.e., cyanide solution).

Piping containing cyanide at the cyanide mixing, off-load and storage facilities, and at the pregnant and barren solution sumps is well marked as cyanide, barren or pregnant solution, and labeled with flow direction arrows. The high-strength cyanide feed line running from the Cyanide Distribution Tank to the Barren Solution Sump, the piping connecting the Cyanide Mix Tank, and the Cyanide Distribution Tank.

Pipe labeling within the area of the CIC plant and other process areas was legible, in the language of the workforce, and in good condition.

CMM maintains SDS information for chemicals including dry and liquid cyanide as hard copies at the CIC plant control room. SDS information is in English, the language of the workforce.

First Aid procedures for treating cyanide exposure caused by inhalation, ingestion, and skin absorption are posted on signs (created by Cyanco) at the CIC plant and at the cyanide off-load and liquid storage facilities.

The Castle Mountain Mine Emergency Response Plan (ERP) includes procedures for all emergency incidents related to worker safety, including cyanide related incidents. These procedures address; Preliminary Investigation, Detailed Assessment, Objective Critique, Employee Debriefing, and ERP Review and Update. During this audit, the site Safety Coordinator reported the site has not experienced a health or safety incident requiring the use of this investigation process. Based on interviews with site personnel, the site has not experienced a significant worker health or safety incident.

CMM is governed by federal Mine Safety and Health Administration (MSHA) regulations, which require that health and safety incidents be investigated and site procedures and/or work practices be modified in response to investigative findings. During this audit, based on the review of the ERP and jurisdictional requirements in the auditor's judgement the ERP contains the required procedures and the procedures would be implemented for a worker health and safety incident involving cyanide.

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

The operation is **in full compliance with** **Standard of Practice 6.3**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM has a total of two cyanide antidote kits (Nithiodote™ kit (intravenous Sodium Nitrite and Sodium Thiosulfate and Amyl Nitrite Ampules), located in process area and the on-site Mine Emergency Response Vehicle. Specifically, Nithiodote Kits reside at the:

- Process Operations offices – which are climate controlled; and,
- Inside the emergency vehicle parked near the site main offices/gate and Health & Safety Department offices.

The auditor inspected the Nithiodote™ kits and they were stored properly and within expiry dates.

The CMM Emergency Medical Response (EMR) Instructor and Safety Department conduct monthly inspections of the cyanide antidote kits to verify that the antidotes, oxygen kits, and supplies are stocked, operational, within expiry dates, and replace the items as needed. The inspections are documented on the "Cyanide Kit Inspection" form. During an emergency, CMM personnel would access the kits as required.

The Mine Emergency Response Team members perform routine inspections of emergency response equipment and assessments of emergency response capabilities and preparedness.

Inspections cover equipment and first aid/rescue supplies: oxygen kits, gurney, etc. and are documented on various inspection forms specific to the equipment. Inspection records for the past 24 months were reviewed for verification.

The primary means of communication while on site is the radio system. Process operators and supervisors carry radios, and each vehicle is equipped with a radio. Additionally, the plant control uses cellular telephones, if needed. CMM escorts cyanide delivery drivers in and out of the mine site and a CMM Process operator stays with the mix operator during connections and disconnection and is assigned to the immediate area throughout the mixing and off-load process.

The CMM ERP provides first aid response and symptoms to cyanide exposures. First aid procedures include cases of inhalation, swallowing, and skin absorption for victims fully conscious, unconscious, and not breathing. Procedures also include proper administration of Amyl Nitrite in cases where the victim is breathing or not breathing. The ERP also contains response procedures beyond first aid including contacting off-site ground and air ambulance services.

CMM has posted signs, developed by Cyanco, at the CIC plant and the cyanide mixing, off-load, and liquid storage facilities, which alert personnel of cyanide and provide instruction regarding recognition and treatment of cyanide overexposure. The signs list exposure symptoms, first aid procedures specific to inhalation, ingestion and skin absorption, rescue procedures, and procedures for administering Amyl Nitrite. For each exposure type, first aid and antidote instructions are provided for cases where the victim is fully conscious, unconscious/not fully conscious, breathing, and not breathing. Rescue procedures include calling for nearby help, moving the victim to fresh air, quickly determining the victim's condition, giving first aid immediately, and calling for trained medical help if necessary.

CMM has created an emergency response team to provide onsite initial emergency response. The team does not have advanced medical care capabilities (excluding the EMR, there are no paramedics onsite), but the team has the capabilities and equipment to respond to a wide range of chemical and medical incidents.

CMM has an emergency response vehicle/ambulance on-site and maintains a supply of emergency response equipment, which are listed in the ERP.

In the ERP, CMM has outlined specific steps for calling off-site responders to transport worker(s) exposed to cyanide to a locally available qualified Off-Site medical facility. In the event of a major incident CMM, Incident Commander or designee, will contact outside agencies or personnel for assistance. The ERP contains the contact information for Off-site Responders and presents the Federal, State and Local Agency Notification and for any cyanide related emergencies, Cyanco will also be notified. Additionally, there are instructions on how to provide specific directions (coordinates) to the site for ground and air responders.

Due to the remote location of CMM, the site has determined that the quickest transportation to medical facilities would be via air transportation, as such, the site has made formal arrangements with Mercy Air. Mercy Air has conducted site visits to verify the site helipad location, cyanide facility layout, and transportation timing. In January of 2023, CMM provided Mercy Air with notification of the potential need of transportation in the event of worker exposure to cyanide.

The closest acute care hospital to CMM Mine is the St. Rose Dominican Hospital in Henderson, Nevada. CMM has made formal arrangements with St. Rose Dominican Hospital through a letter exchanged with the hospital in January 2023.

PRINCIPLE 7 – EMERGENCY RESPONSE

Protect communities and the environment through the development of emergency response strategies and capabilities.

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

The operation is **in full compliance with** **Standard of Practice 7.1**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

The CMM ERP, Equinox Gold Spill Prevention and Response Plan, Equinox Gold Mitigation Procedure, and Cyanide Impacts Mitigation all address potential accidental releases of cyanide and cyanide exposures. The CMM Health & Safety and Environmental departments administer the ERP and Plans to address emergency response and mitigation measures. Development and implementation of the ERP is a requirement of Federal, State and Local Authorities, and Equinox Gold, Inc.

The CMM ERP, Equinox Gold Spill Prevention and Response Plan, and Equinox Gold Mitigation Procedure, Cyanide Impacts Mitigation consider cyanide release scenarios, discuss cyanide scenario's which have the potential to occur at CMM. The ERP identifies and provides general response procedures for the following emergency scenarios:

- Injury Accidents;
- Emergency Evacuation;
- Fires and Explosions (including cyanide facilities);
- Natural Disasters (tornadoes, earthquakes, severe thunder and lightning storms, flooding, snow and ice storms); and
- Environmental Incidents (accidental releases of hazardous materials, including cyanide).

The standard response procedures provided for Environmental Incidents, include general guidelines to follow in the event of:

- spills of solid sodium cyanide during off-loading and mixing operations;
- releases of high-strength cyanide solution during off-loading and mixing operations and at the CIC plant circuit due to piping, hose or tank ruptures (both inside and outside of secondary containment); and,
- releases of low-strength cyanide solution due to power outages, pump failures, uncontrolled seepage or failure of heap leach facilities (leach pad, pond or pipeline).

Catastrophic releases of HCN gas from storage or processing facilities are not reasonably expected to occur at CMM as all process facilities are open-air. Pursuant to statutory obligations regarding Cal/ARP, CMM completed a Risk Management Plan (January 2020) to evaluate impacts to off-site public receptors from potential cyanide release scenarios.

During the period reviewed for this ICMC audit, CMM purchased cyanide directly and exclusively from Cyanco. CMM purchases dry cyanide from Cyanco, delivered to the site in briquette form contained within ISO's. CMM assumes responsibility for the cyanide upon delivery into the cyanide storage tank at the CMM CIC. Delivery is deemed to occur when Cyanco's delivery driver has emptied the ISO to the storage tank and disconnected the delivery hoses from the ISO.

The purchase contracts between CMM and Cyanco state that the Seller (i.e., Cyanco) is responsible for packaging, labeling, storage prior to shipment, evaluation and selection of routes, storage and security at ports of entry, interim loading, storage and unloading during shipment, transportation to the delivery location, unloading at the delivery location, safety and maintenance of the means of transportation throughout transport, task and safety training for transporters and handlers throughout transport, security throughout transport and emergency response throughout transport, all in accordance with applicable Principles, Standards of Practice, performance goals, audit recommendations, and certification requirements of the ICMC. Furthermore, the Seller must maintain emergency response plans relating to the CMM conforming to the recommendations of the ICMC and the requirements of applicable law. In accordance with the contract, the emergency response plans shall clearly define the responsibilities of the Seller and its distributors and contract transporters for any incidents involving the transportation of cyanide from the Seller's production facilities to the mine.

It should be noted that the nearest residential community of more than one or two rural homes is about 50 miles northeast of the CMM.

The Cyanco NaCN ISO Off-Loading SOP includes general procedures for responding to leaks, overflows, or other incidents involving the off-load of cyanide. In all cases, if an incident (e.g., spill, leak, exposure, fire, or accident) occurs on site during the delivery or off-loading of cyanide, the CMM operator is to initiate the incident command system by calling "Mayday", at which time the supervisor in charge or the Plant Operator will contact the appropriate management and off-site responders, if needed.

Additionally, the Supervisor and/or the Health & Safety Department will reference the emergency contact information found on the bill of lading. The CMM operator and mix operator are instructed to attempt to stop the leak or spill via the emergency shutoff switches/devices if possible. CMM personnel indicated that Cyanco would handle further response and cleanup following notification.

The CMM ERP provides procedures for emergency evacuation. Each CMM department has a pre-designated and alternate assembly area in the case of an evacuation and all personnel, vendors, and/or contractors must check in with the area supervisor at the designated assembly location. The ERP also contains maps depicting evacuation routes and assembly areas for the various facilities and buildings. The Incident Commander is responsible for determining if the incident could threaten human health or the environment outside the facility. If the assessment indicates that evacuation of local areas may be advisable, the Emergency Coordinator shall immediately notify appropriate local authorities.

In the event a cyanide solution release occurs during a fire or explosion, CMM would initiate an emergency evacuation and immediately notify the supplier (Cyanco). Additionally, CMM would take immediate steps to barricade the area and station personnel to limit access. CMM would take further action upon guidance provided by the supplier's representative. Any employee discovering a minor fire would attempt to extinguish the fire using a Purple-K/dry fire extinguisher, if possible, without creating personal endangerment. Upon discovering a major fire, workers would immediately report the fire to their area supervisor who would take charge of the scene.

In the event of a major fire, CMM would initiate an emergency evacuation and allow the fire to burn until off-site responders arrive and/or the fire fuel is exhausted. In the event of a cyanide release during off-load and mixing activities, the mix operator and CMM operator would attempt to stop the source of the spill via the emergency shutoff switches/devices available. Additionally, CMM would take immediate steps to barricade the area and station personnel to limit access.

CMM would notify the cyanide supplier and take further action upon guidance provided by the supplier's representative. In all cases where high-strength solution overflows from the concrete secondary containment area into the adjoining lined pipeline containment channel, CMM would dilute the solution with fresh water and the diluted solution would drain to the pond system for pump back into the process.

Cyanide solution released outside of containment would flow to soil in all cases, as there are no surface water bodies located in the immediate vicinity of the operation and groundwater across the CMM ranges from 166- to 535-feet below ground surface. Therefore, CMM would respond to releases due to power outages, pump failures, and uncontrolled seepages or failure of heap leach facilities (leach pad, pond, or pipeline) similarly.

The source of the spill would be isolated and controlled to the extent possible, and earthen berms would be constructed to contain the released solution. The contained solution would be pumped back into a concrete or lined containment area. Following pumping, CMM would implement its environmental policy, "Equinox Gold Spill Prevention and Response Plan," which provides general requirements for reporting, cleaning up, and performing soil analyses following accidental spills of various substances outside of containment (including process solution). In accordance with this Plan, impacted soils would be sampled and all contaminated materials excavated and returned to a heap leach pad. Cyanide impacted materials and containment materials used would be placed into barrels for off-site disposal.

The CMM ERP includes written procedures for responding to cyanide exposure victims, including first aid measures, and the use of the cyanide antidote kits. The procedures replicate the signs posted at the CIC plant and the cyanide mixing, off-load and storage facilities, which alert personnel of cyanide and provide instruction regarding recognition and treatment of cyanide overexposure. The procedures list exposure symptoms, first aid procedures specific to inhalation, swallowing and skin absorption, and steps for administering amyl nitrite and/or the Nithiodote Kit. For each exposure type, first aid and antidote instructions are provided for cases where the victim is fully conscious, unconscious/not fully conscious, breathing, and not breathing. Rescue procedures include calling for nearby help, moving the victim to fresh air, quickly determining the victim's condition, giving first aid immediately, and calling for trained medical help if necessary.

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

The operation is **in full compliance with** **Standard of Practice 7.2**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM site is remote with limited off-site communities located nearby that could potentially be affected by a cyanide release. The nearest residential community of more than one or two rural homes is about 50 miles west of the CMM.

In accordance with the CMM ERP, local emergency agencies are consulted in regard to CMM emergency response planning and encouraged to participate in emergency drills. Additionally, CMM periodically conducts community cyanide awareness training in Searchlight, Nevada. The 2022 Cyanide Awareness Training was attended by the public and government agencies including; contractors, Bureau of Land Management, Nevada Department of Transportation, Cyanco, and CMM employees.

CMM's workforce also has the ability to participate in the emergency response planning process via daily crew meetings, periodic safety meetings, and during the MSHA annual refresher training.

CMM provides the opportunity to communicate issues of concern with the public through permitting related meetings and has developed an information brochure that provides a summary of CMM activities, references the International Cyanide Management Institute (ICMI), and offer multiple social media paths for the public to obtain more information.

Additionally, the regulatory process for new permits and permit revisions (Environmental Impact Statements) provides opportunity for public review and comment associated with potential releases. CMM is currently permitted through State and Federal Permitting Processes, that includes extensive public consultation.

In January 2023, CMM provided letters to the St. Rose Dominican Hospital, Siena Campus and Mercy Air/AirMethods, the medical transporter and designated hospital, that liquid sodium cyanide is used within their response area. These letters alerted medical personnel that potential cyanide exposure could occur at CMM and verified that the medical transporter and hospital are able to respond to cyanide poisoning.

Emergency response procedures developed for CMM do not designate any responsibilities to outside communities.

The San Bernardino Co. Fire & Rescue would be the primary contact for outside responders. CMM Incident Commander is responsible for determining the need and type of transport required in the event of a cyanide exposure and will contact Mercy Air Ambulance Service for activation and response.

CMM has identified and established dialogue with key outside responders, including the Sheriff's Office's, Fire and Rescue departments, and hospitals. Additionally, CMM offers Annual Emergency Training with outside responders and Cyanco, which serve to coordinate response services and associated training between CMM and outside responders.

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

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

Summarize the Basis for this Finding or Deficiencies Identified:

The ERP establishes an Incident Command System, which is an organized system of roles, responsibilities, standard operating procedures, and guidelines used to manage and direct emergency operations to respond and mitigate emergency incidents. Initially, the supervisor in charge of the area where an incident occurs assumes the role of Acting Incident Commander. The Area Supervisor is the designated Incident Commander, and the Area Lead Person is the Alternate Incident Commander. The Incident Commander is responsible for the site-wide emergency activities. The ERP designates Mine Emergency Management Personnel and their respective roles for anticipated emergencies at the site, and their associated responsibilities are described under the standard operating procedures for various emergency incidents.

CMM has established a standing Mine Emergency Response Team (MERT) designated to respond to all major emergencies. The MERT is comprised of employees who receive special training in mine emergency response activities including use of the mine's emergency response equipment, emergency responder or first aid/Cardiopulmonary resuscitation (CPR)/Automated External Defibrillator (AED), hazardous materials first responder operations, and of employees with special skills.

The ERP provides an Emergency Notification Procedure, includes both telephone and radio contact information. Any employee discovering a situation that escalates beyond a minor incident, injury or illness i.e., fire, explosion, personnel entrapment, and environmental spills of liquids or gases will at once report it to his/her supervisor who will then take charge of the scene.

The ERP lists "Mine Emergency Response Equipment" and "Emergency Spill Response Equipment" and the locations of the equipment. The spill response equipment list includes PPE locations (i.e., the Main Office, Mine Emergency Response Vehicle, and the Process Control Room).

MERT members perform routine inspections of emergency response equipment and assessments of emergency response capabilities and preparedness. Inspections cover equipment and first aid/rescue supplies and are documented on various inspection forms specific to the equipment.

The Incident Commander, his or her designee, or the Acting Incident Commander will contact outside agencies or personnel for assistance. The Incident Commander will, based on the incident, identify the most appropriate outside responders and make contact. The CMM Incident Commander will determine the need for off-site transportation and contact Mercy Air Ambulance Service for activation and response. The Incident Commander will direct outside responders as appropriate for the incident at hand.

CMM provides the Department of Toxic Substance Control with an electronic copy of the CMM ERP, which in turn, maintains centralized data accessible to outside responders.

Additionally, CMM provided letters to St. Rose Dominican Hospital, Siena Campus (dated January 31st, 2023) notifying the hospital that it could potentially be asked to treat cyanide exposure victims from the CMM operation and that CMM understands that the hospital has adequate and qualified staff, equipment, and expertise to treat such patients.

CMM indicates that it has identified and established dialogue with outside responders. Furthermore, CMM generally conducts Cyanide Awareness Training in conjunction with the cyanide supplier annually.

CMM provides opportunities and includes external stakeholders and responders that have response roles and responsibilities in mock drill scenarios.

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

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

Summarize the Basis for this Finding or Deficiencies Identified:

The ERP provides procedures for incident reporting (safety and environmental) and investigation. Including internal and external emergency notification to management personnel, outside responders, and federal, state and local regulatory agencies, and emergency services. Detailed contact lists for these entities are provided in the ERP. The CMM's Emergency Medical Responder-Instructor is responsible for maintaining a current list of MERT personnel. A current copy resides with the Emergency Medical Responder-Instructor and the person on call. CMM does not include the contact list in its ERP for reasons of confidentiality.

The ERP identifies at what level a cyanide related incident would be reported to the ICMI, reporting contact information, and report format.

CMM is remote with limited off-site communities located nearby, which could potentially be affected by a cyanide release.

Therefore, other than for outside responders and the media, the ERP does not provide procedures and/or contact information for notifying potentially affected communities of cyanide-related incidents. CMM prioritizes stakeholder groups and utilizes various types of communication strategies that, if required, could be implemented in the event a significant on- or off-site cyanide incident were to occur.

The CMM Incident Commander, his or her designee, or the Acting Incident Commander, based on the incident, will determine the appropriate outside agencies or personnel to be contacted.

The site General Manager is responsible for handling all public informational needs, including coordination with the media. The General Manager will review with management all press conferences and press releases. The ERP provides guidelines for communicating with the media, which include scripted response statements specific to various incident scenarios.

The CMM ERP includes specific protocols to provide the ICMI an initial report of a cyanide event. The protocol includes: reporting within 24-hours by phone or email. The protocol includes the ICMI reporting number and email. Additionally, an outline of required information to properly report to ICMI is provided.

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

The operation is **in full compliance with** **Standard of Practice 7.5**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

At CMM, cyanide solution released outside of containment would flow to soil in all cases, as there are there no surface water bodies located in the immediate vicinity of the operation and groundwater across CMM site ranges from 166-feet to 535-feet below ground surface.

In the event of a cyanide solution release outside of concrete or lined secondary containment, CMM would construct earthen berms to contain the released solution. Once contained, the solution would be pumped back into a concrete or lined containment area.

Following pumping, CMM would implement the Equinox Gold Spill Prevention and Response Plan, which provides general requirements for reporting, cleaning up, and performing soil analyses following accidental spills outside of containment. In accordance with this plan, impacted soils would be sampled and all contaminated materials excavated and placed on the heap leach pads.

For significant spills or cleanup in long-term affected areas, CMM would develop a spill specific sampling plan that would include: collection of soil samples following the removal of the contaminated soil. CMM considers soil cleanup complete when cyanide concentrations are below the detection limit for WAD analysis.

For smaller spills, CMM indicated that the contaminated soils would be excavated completely (i.e., dig to dry). Any cyanide impacted materials and containment materials used would be placed into barrels for off-site disposal.

The ERP or other procedures do not need to prohibit the use of chemicals to treat cyanide that has been released into surface water. CMM personnel indicated that a release would not reasonably be expected to enter surface water, as there are no surface water bodies located in the immediate vicinity of the operation.

In accordance with the RWQCB Monitoring and Reporting Program, CMM must report by telephone any accidental seepage, spillage, leakage, or release of "waste material" from the designated area within 48 hours after discovery. A written report must be filed with the RWQCB within seven days containing a map showing the location(s) of the discharge; an estimate of the flowrate; a description of the nature of the discharge; and corrective measures underway or proposed. Based on retesting, if CMM concludes that a release has occurred, CMM must takes steps to perform monitoring and submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program within 90 days and submit a preliminary engineering feasibility study within 180 days for remediation. For significant spills or cleanup in long-term affected areas, CMM would develop a spill specific sampling plan and would collect soil samples following the removal of the contaminated soil.

CMM considers soil cleanup complete when cyanide concentrations are below the detection limit for WAD analysis. For smaller spills, CMM indicated that the contaminated soils would be excavated completely (i.e., dig to dry). Any cyanide impacted materials and containment materials used would be placed into barrels for off-site disposal.

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

The operation is **in full compliance with** **Standard of Practice 7.6**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

As stated in the ERP, the Health & Safety Department and the Environmental Department coordinate to update the ERP as needed. CMM personnel indicated that the ERP is reviewed annually. The ERP was initially developed in August of 2020.

A subsequent update, as indicated on the ERP cover page, occurred in February of 2023. CMM modified the ERP to incorporate ICMC specific details.

According to the ERP, MERT personnel periodically participate in evaluation and assessment processes and participate in development and implementation of procedures and practices. During this ICMC certification audit, CMM indicated that MERT personnel currently review the ERP when significant changes on site occur (i.e., new equipment, a new process, etc.) and participate in routine training on the ERP procedures.

In CMM's 2023 ERP, includes in Section 5 of Tab#6 Mine Emergency Response Team, the Cyanide Incident Drill Protocol, that outlines the requirements for conducting a mock drill annually. It should be noted that the 2020 ERP required mock drills to be conducted "periodically" and was revised in early 2023 to include provision consistent with ICMC to conduct mock drills annually.

Two mock drills have been conducted at site prior to this audit.

The first was conducted in April of 2021 and included a worker exposure to liquid cyanide release at the unloading area, while the second was conducted in May of 2023 and included worker exposure to liquid cyanide release.

These mock drills were conducted to test response procedures for a cyanide releases and exposure to determine if the MERT procedures and equipment are adequate and if personnel are trained properly. The mock drills included on-site, and off-site personnel expected to respond to cyanide emergencies. The drills included a post-drill debriefing to determine areas of potential improvement of the emergency response components; ERP, SOP's, emergency response training, communications, and response actions. Areas for improvement are included in a corrective action plan that includes deficiency remedial actions, responsible person, and timeline for completion.

The scenarios included mock "MAYDAY" calls, response to an exposure victim, deployment of the MERT team, MERT vehicles(s), use of the cyanide antidote kit, loading of the victim onto a gurney, and transport to the helipad.

The Health & Safety and/or Environmental departments are responsible for collecting all records and forms used during an emergency incident.

CMM uses this documentation for incident investigation, insurance claims, and potential legal actions.

Department superintendents and managers, in conjunction with the Health & Safety and/or Environmental Manager(s), must also prepare a report documenting important activities that occurred during an emergency for submittal to the General Manager within 24 hours.

Critiques of incidents are required to review what actions took place during the incidents, both good and bad. Critiques are designed to allow for the flow of ideas and recommendations to improve the ERP and the operation's response policies and guidelines. An employee-debriefing meeting will be held to inform personnel about the events of an emergency and any hazards that may remain on the facility property following an incident.

CMM personnel indicated that no significant emergency incidents have occurred since 2020, which triggered the review/investigation process established by its ERP. Therefore, records of emergency incidents (as described above) were not available for review.

PRINCIPLE 8 – TRAINING

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

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

The operation is

in full compliance with

in substantial compliance with **Standard of Practice 8.1**

not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM trains all employees in cyanide awareness as part of new hire and annual refresher training. The site is within the jurisdiction of MSHA which requires all new employees to receive chemical awareness training including cyanide awareness upon induction and task specific training. The site provides chemical, including cyanide, training for all process department employees and MERT members on proper handling and response to cyanide exposure emergencies, at least annually, utilizing training materials supplied by the manufacturer and the cyanide facts and safe handling training materials included in the Cyanide Awareness and ART training materials, which include: site cyanide hazards, health effects of cyanide, cyanide exposure pathways, and the signs and symptoms of cyanide exposure.

In addition to the new hire/induction training presentation, contractors working in cyanide areas receive site-specific training. CMM supervisors provide cyanide awareness training and conduct a walkthrough of the area to introduce contractors to the cyanide facilities, safety shower and eyewash stations, and controls.

CMM uses MSHA Form 5000-23 as documentation of new hire and contractor training. The auditor reviewed CMM personnel files to verify that employees are receiving this training. Additionally, the auditor interviewed operations personnel: Cody Sewell, Brendon Sewell and Phil Hoth, and reviewed their training files for verification of the cyanide training these employees receive.

CMM provides periodic refresher training regarding cyanide safety in conjunction with required MSHA annual refresher training. CMM uses MSHA Form 5000-23 as documentation of this training. The auditor reviewed personnel files to verify that employees are receiving this refresher training.

The Health & Safety Department manages and maintains training records for all employees. During this ICMC certification audit, CMM provided documentation demonstrating that training records are retained.

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

The operation is

in full compliance with

in substantial compliance with **Standard of Practice 8.2**

not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM requires completion of SOP "task training" forms for cyanide-related (and non-cyanide-related) work tasks. The forms document training dates and signatures of both instructors and trainees.

The initial training does not authorize trainees to perform the associated work tasks unsupervised; however, the trainee must complete the training requirements and receive an MSHA Form 5000-23 before performing the tasks unsupervised; however, the trainee must complete task specific training requirements and receive an MSHA Form 5000-23 before performing the tasks unsupervised.

This task-specific training supplements the cyanide safety training provided to all employees.

The task training forms for cyanide-related SOPs identify the important elements necessary for each job. Additionally, CMM implements a "Part 48 Training Plan" required by MSHA under the Code of Federal Regulations (CFR); i.e., 30 CFR, Part 48 (Surface). This plan identifies approved instructors and tasks covered under the different training programs (i.e., annual refresher, new miner, experienced miner, task, and hazard training).

The CMM Health & Safety staff, Process Plant Supervisor, or Lead Plant Operator provides the required task training, depending on the task, which includes review of the related SOP and hands-on demonstration, prior to new employees performing a work task unsupervised.

CMM administers testing to evaluate the effectiveness of cyanide safety (induction), task, and first aid training.

CMM requires employees, visitors, and contractors to pass a test for site induction and cyanide safety. For other training, specifically task training, CMM does not employ a formal examination or testing procedure (i.e., written exams or quizzes) for evaluating effectiveness of task-related training.

CMM provides task-related refresher training if workers change jobs/areas. Workers receive training on the associated SOP and spend time with the Lead Operator until they are familiar with the task. Additionally, if an SOP changes for any reason, workers receive new training on the task and related changes. The auditor reviewed personnel files to verify that process operators have received refresher training on recently revised cyanide-related SOPs.

The Health & Safety Department manages and maintains training records for all employees. Each employee file contains a history of training completed over the duration of employment. CMM documents training via task training forms for SOPs and MSHA 5000-23 forms. The training records include the name of the trainer, date of training, and topics covered.

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

The operation is **in full compliance with** **Standard of Practice 8.3**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

CMM SOP's include task specific procedures, including decontamination (personnel and materials), in the event cyanide is released. These SOP's reference the CMM ERP for additional procedures and notifications in the event of a cyanide release or exposure.

CMM has established a standing MERT designated to respond to all major emergencies. The MERT comprises employees who receive special training in mine emergency response activities including; emergency responder or first aid/CPR/AED and hazardous materials first responder operations. MERT members function as the primary responders to all emergencies. At the time of this certification audit, the MERT team consisted of 8 individuals who are trained in cyanide response and First Aid, two individuals are who are trained in cyanide rescue with a Self-contained Breathing Apparatus, and six lay responders.

All on-duty members of the team respond upon notification, and at minimum, two team members are available for response on each rotating 12-hour shift.

The Health & Safety Department administers the MERT training programs using both company and outside resources. In accordance with the ERP, MERT personnel receive monthly training on emergency response medical procedures, on effective firefighting techniques using CMM equipment, on basic rescue procedures, and on hazardous material first responder operations.

Emergency response procedures developed for the CMM do not designate any responsibilities to outside responders.

Due to the remote setting of CMM, it is the expectation that site MERT will be the primary responder for all types of incidents and, as per the Emergency Notification Requirements for the CMM, would request outside resources as needed. Mercy Air is the contact for transportation of exposed workers, for easy reference during an emergency the ERP provides latitude and longitude coordinates for the CMM heliport.

CMM has provided letters to Mercy Air and St. Rose Dominican Hospital, Siena Campus notifying the hospital that it could potentially be asked to treat cyanide exposure victims from CMM operation and that CMM understands that the hospital has adequate and qualified staff, equipment, and expertise to treat such patients.

MERT personnel receive routine training regarding response techniques and use of response equipment, as well as annual refresher training, which includes emergency response and first aid. MERT personnel also participate in periodic drills to prepare and train for potential emergency incidents, which include cyanide exposures and releases.

The Health & Safety Department manages and maintains training records for all employees and MERT. Each employee and MERT file contains a history of training completed over the duration of employment. CMM documents training via task training forms for SOPs and MERT Training. The training records include the name of the trainer, date of training, and topics covered. As verification, the auditor reviewed the personnel and MERT files for Cody Sewell and Phil Hoth. For both employees, their training files contained documentation for their entire employment at CMM.

PRINCIPLE 9 – DIALOGUE & DISCLOSURE

Engage in public consultation and disclosure.

Standard of Practice 9.1 **Promote dialogue with stakeholders regarding cyanide management and responsibly address identified concerns.**

The operation is

<input checked="" type="checkbox"/> in full compliance with	
<input type="checkbox"/> in substantial compliance with	Standard of Practice 9.1
<input type="checkbox"/> not in compliance with	

Summarize the Basis for this Finding or Deficiencies Identified:

The CMM Environmental Permitting Manager is tasked with ensuring that CMM remains actively engaged in the local and regional community, and serves as the primary point of contact with respect to inquiries or complaints regarding the operation.

CMM has a Stakeholder Management Plan (SMP). The foundation of this plan is the development of solid relationships and partnerships with Communities of Interest, and key community constituencies, that will foster honest and open two-way communication.

The SMP shows that CMM understands the demographics of their stakeholders and the history of the area and how that might shape their opinions regarding CMM. They have built their permitting and outreach activities with that in mind.

The Environmental Manager indicated that CMM provides several means for stakeholders to communicate issues of concern regarding cyanide use and management at CMM.

The Equinox Gold website states, "CMM is a long-standing member of the local community, and we strive to maintain our strong reputation while forging new relationships with key decision makers. We have ongoing outreach efforts with the community, and provide informational programs for community organizations, service clubs and schools. We make regular community presentations to maintain a two-way dialogue with our local stakeholders. We remain in regular contact with federal and state regulators, regional mining and mineral enthusiasts, and community-based organizations."

See more comments at: <https://www.equinoxgold.com/responsible-mining/communities/>

Additionally, CMM has an external Question and Contact Form. Using this form, CMM ensures prompt follow-up by qualified personnel regarding questions and contacts from external stakeholders. Complaints are assessed, investigated, resolved and communicated within 30 days of receipt. Finally, the public review process offered by federal, state, and county permitting processes solicits input from affected communities and stakeholders regarding all aspects of the operation.

External Comments and Contacts can be made at the following location:

<https://app.smartsheet.com/b/form/d871c4aecee14313aec81d7c26327df8>

Standard of Practice 9.2 **Make appropriate operational and environmental information regarding cyanide available to stakeholders.**

The operation is **in full compliance with** **Standard of Practice 9.2**
 in substantial compliance with
 not in compliance with

Summarize the Basis for this Finding or Deficiencies Identified:

Equinox Gold discusses their Water and Cyanide Management on their website, *“Equinox Gold’s water management strategy is focused on protecting the quality of local water resources and minimizing the amount of water used to maintain operations. We strive to both reduce our water use and to recycle water where possible. Our sites comply with all required discharge and prescribed water quality standards, although most of our sites are zero-discharge. Equinox Gold is a signatory to the International Cyanide Management Code, which commits the Company to applying leading practices in the transport and safe use of cyanide and also to implementing programs to monitor for cyanide in both surface water and groundwater at all of its sites.”*

See more at: <https://www.equinoxgold.com/responsible-mining/environment/>

The written regulatory permits and permit applications, such as heap leach pad modification applications submitted to the Regional Water Quality Control Board, associated with CMM provide detailed descriptions of all aspects of the operation and are public record. The Equinox Gold website advertises that the company is signatory to the Code and that the CMM will be certified.

CMM’s 43-101 reports also contain a description of the process system and cyanide management, this is available through internet searches. These are provided to agencies as needed and available on Equinox Gold’s website (<https://www.equinoxgold.com/operations/technical-reports/>), but they are not distributed to community stakeholders unless requested.

According to the US Census Bureau’s Education Statistics, as of 2022 (the most recent data available), approximately 81% of San Bernardino County residents +25-years of age, have a high school education and for the same group 22% have a bachelor’s degree or higher. Additionally, approximately 56% of San Bernardino County were identified to speak a language other than English at home. Regardless of the demographics, CMM disseminates information in a written and verbal form via open meetings, training events, presentations, tours, and civic events to ensure technical written documentation is understood by a large portion of the local population.

CMM identifies in their Stakeholder Management the specific demographics that may pose a challenge to communicating about cyanide use at the mine site to the local populations. These factors indicate that special attention is needed to ensure that messaging is simple, consistent, and respectful. As a result of their local employee pool, a large percentage of employees at CMM speak both English and Spanish fluently. This characteristic of their employee base also aids to the overall efficacy of their verbal communications regarding the mine’s use of cyanide with the local population.

CMM operates under multiple regulatory jurisdictions that require reporting of cyanide releases and/or work exposure. Under federal regulations; Mine Safety and Health Administration, CMM would be required to submit reports of hospitalizations and/or fatality to the regulatory agency. These reports are publicly available.

In accordance with the RWQCB, a release of cyanide containing solutions on or off the mine site, regardless of exceedance of a regulatory standard, or other regulations, would require reporting to the RWQCB, these reports are publicly available.