BARRICK GOLDSMITH MINES, INC.

Cyanide Code Re-Certification

Summary Audit Report

Project No. 0174419

December 2013
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1. **SUMMARY AUDIT REPORT**

Name of Mine: Barrick Goldstrike Mine  
Name of Mine Owner: Barrick Gold Corporation Inc  
Name of Mine Operator: Barrick Gold Corporation Inc  
Name of Responsible Manager: Andy Cole  
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1.1. **OVERALL AUDITOR’S FINDING**

This operation is

✓ in full compliance  
☐ in substantial compliance  
☐ not in compliance

with the International Cyanide Management Code.

This operation has not experienced compliance problems during the previous three-year audit cycle.

Audit Company: ERM Mexico, S. A. de C. V.  
Audit Team Leader: Juan Carlos Rangel Lopez  
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Names and Signatures of Other Auditors:  
Brent C. Bailey  
Robert Livermore  
Date(s) of Audit: 4 to 7 June 2013

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

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

The Barrick Goldstrike Mine (Goldstrike) is located in the Little Boulder Basin adjacent to the Tuscarora Mountain Range on the county line between Elko and Eureka Counties, approximately 27 miles northwest of the community of Carlin, Nevada. The Goldstrike Mine complex is located on both private land and federal land administrated by the U.S. Department of Interior, Bureau of Land Management.

Goldstrike consists of a single large open pit mine, two underground mines, overburden stockpiles, topsoil stockpiles, two tailings impoundments, a closed and reclaimed heap leach facility, two separate grinding and milling circuits feeding a roaster and carbon-in-leach (CIL) circuit and an autoclave and CIL circuit, administration and maintenance facilities and access and haul roads.

Goldstrike is comprised of two general areas of operation: (1) the AA-Block area that includes the Betze-Post open pit, the Meikle and Rodeo underground mines, the Wet Mill/Autoclave and CIL circuit, the AA-Tailings Disposal Facility (currently in-active), the reclaimed AA-heap leach facility; and (2) the North-Block area that includes the Roaster and CIL circuit and the North-Block Tailings Disposal Facility (NBTDF). Both of these areas process sulfide ore for recovery of gold and other precious metals reutilizing cyanidization processing. Tailings from both areas are placed into the NBTDF. The Roaster circuit includes an INCO sulfur dioxide cyanide destruction process to detoxify the tailings prior to discharge to the NBTDF. The Wet Mill/Autoclave circuit utilizes a Caro’s Acid cyanide destruction process prior to discharge in the NBTDF. These ore processing facilities have been designed and constructed with appropriate secondary containments for pipelines and tanks with additional storage for collection of storm water from extreme precipitation events, and with controls for wildlife protection including fencing and cyanide detoxification.

Goldstrike has a comprehensive environmental monitoring program to evaluate the performance of the ore processing facilities and containments. The monitoring program includes daily monitoring of pond leak collection systems, quarterly sampling and analysis of groundwater and surface water, and quarterly sampling and analysis of tailings supernatant ponds. Wildlife monitoring is conducted per shift by the operators during facility inspections.

Goldstrike stores and manages sodium cyanide in engineered tanks, pipelines and lined ponds that have had appropriate quality control and quality assurance. Goldstrike employees are trained in cyanide hazards and first aid, first response, emergency response, and specific operational task training. Goldstrike facilities are fenced to preclude wildlife and livestock from entering cyanide process areas. Goldstrike conducts daily, weekly, and monthly inspections to assure that facilities are functioning as designed and to monitor process solutions. Preventive maintenance programs are in place to assure the continuous operations. Goldstrike has approved closure and reclamation plans along with financial assurance to complete the appropriate management of cyanide solutions and solids, and the decontamination of cyanide pipelines and equipment.

Goldstrike has an emergency response team that is trained to respond to onsite fires, chemical spills and worker exposures to cyanide. Goldstrike works with local community emergency responders to assure that adequate resources are available to address both offsite and onsite emergencies.
The Goldstrike mines include active dewatering operations. Water produced by Goldstrike’s pumping operation that is not used in mining and milling operations is used for irrigation, infiltrated or injected into the ground, or discharged, subject to Water Pollution Control Permits and an Underground Injection Control Permit. Water quality monitoring confirmed that the dewatering circuit is separate and distinct from the cyanide processing circuit.

The Goldstrike ore processing facilities are designed, permitted, constructed, and operated as zero-discharge facilities. Changes to the cyanide facilities since the 2010 Recertification Audit are as follows:

- Construction of Raise 9A to the NBTDF; and
- Construction of the Paste Backfill Plant.

The Goldstrike operation was found to be in Full Compliance with the International Cyanide Management Code; and this operation has not experienced compliance problems during the previous three-year audit cycle.
2. PRODUCTION – ENCOURAGE RESPONSIBLE MANUFACTURING BY ONLY USING CYANIDE PRODUCED IN A SAFE AND ENVIRONMENTALLY PROTECTIVE MANNER.

2.1. 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.

This operation is

√ in full compliance
☐ in substantial compliance  Standard of Practice 1.1.
☐ not in compliance

Summarize the basis for this Finding/Deficiencies Identified:

Cyanco, located in Winnemucca Nevada, is the cyanide producer and supplier for the Barrick Goldstrike Mines Inc. (Goldstrike) since January 1, 2009. The contract between Barrick Gold of North America (Barrick) and Cyanco was signed in May 2008 and became effective January 1, 2009. The term of the contract is through December 31, 2013 but has a provision for annual extension by mutual written agreement. The contract states that Cyanco shall comply with the ICMC’s “Principles and Standards of Practice” during the manufacture, transportation, storage, use and disposal of the product (cyanide) and the supplier shall only deliver product (cyanide) produced in an ICMI Code certified facility.

Cyanco’s Winnemucca Production Plant was initially Code certified in October 2006, and was recertified in February 2010 and in July 2013.

Barrick Goldstrike has purchased cyanide solely from Cyanco during the recertification audit period – 2010 through 2013. Cyanco is an ICMI Code certified operation.

Representative Bills of Lading from mid-2010 to mid-2013 were reviewed to verify that the cyanide delivered to Goldstrike was produced by Cyanco.
3. TRANSPORTATION – PROTECT COMMUNITIES AND THE ENVIRONMENT DURING CYANIDE TRANSPORT.

3.1. STANDARD OF PRACTICE 2.1: ESTABLISH CLEAR LINES OF RESPONSIBILITY FOR SAFETY, SECURITY, RELEASE PREVENTION, TRAINING AND EMERGENCY RESPONSE IN WRITTEN AGREEMENTS WITH PRODUCERS, DISTRIBUTORS AND TRANSPORTERS.

This operation is

✓ in full compliance

☐ in substantial compliance Standard of Practice 2.1.

☐ not in compliance

Summarize the basis for this Finding/Deficiencies Identified.

The cyanide supply contract with Cyanco requires Cyanco to comply with the "Principles and Standards of Practice" of the International Cyanide Management Code during the manufacture, transportation, storage, use and disposal of Product (cyanide).

Cyanco’s Winnemucca Production Plant was initially Code certified in October 2006, and was recertified in February 2010 and July 2013.

Cyanco uses TransWood, Inc. (TransWood) as the only transporter of cyanide from Cyanco’s production operations in Winnemucca to Goldstrike. TransWood is signatory to the ICMC and has been re-certified (July 2013) by a third party audit as fully compliant with the ICMC. Compliance with Code demonstrates that the transporter has systems for packaging, labeling, and storage prior to shipment, evaluated transportation routes, unloading at the operation, task training for transporters and handlers, security throughout transport, and emergency response throughout transport.

The contract requires that Cyanco will ensure there are written agreement(s) with Subcontractor(s) in place that clearly designate specific responsibilities for safety, security, release prevention, training and emergency response prior to delivery to Goldstrike between Cyanco, Subcontractor(s) and/or Transporter(s). Additionally, the contract requires use of Code certified transports and the use of subcontractors is addressed in the Code’s Transportation Audit Protocol.
3.2. **STANDARD OF PRACTICE 2.2:** REQUIRE THAT CYANIDE TRANSPORTERS IMPLEMENT APPROPRIATE EMERGENCY RESPONSE PLANS AND CAPABILITIES AND EMPLOY ADEQUATE MEASURES FOR CYANIDE MANAGEMENT.

This operation is

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

Standard of Practice 2.2.

Summarize the basis for this Finding/Deficiencies Identified.

Barrick Goldstrike’s cyanide supply contract with Cyanco delegates the transportation of cyanide to Goldstrike to Cyanco. Further, the contract requires Cyanco to comply with the "Principles and Standards of Practice" of the International Cyanide Management Code during the manufacture, transportation, storage, use and disposal of Product (cyanide). Compliance with the Code requires that the supplier and transporter conform to specific compliance matters set out in the Code's Cyanide Production and Cyanide Transportation Verification Protocols. The contracted transporters via their agreement with Cyanco have a subrogated requirement to Barrick Goldstrike requiring them to transport cyanide to the mine in accordance the ICMC.

TransWood, Inc. (TransWood) is the only transporter of cyanide from Cyanco’s production operations in Winnemucca to Goldstrike. TransWood is signatory to the ICMC and was re-certified (July 2013) by a third party audit as fully compliant with the ICMC.

Representative samples of Goldstrike’s Bills of Lading were reviewed to confirm that the cyanide was, in fact, transported by TransWood from mid-2010 to mid-2013. Goldstrike has chain of custody forms signed and retained for all cyanide shipments documenting the shipment from the Cyanco plant via tanker trucks hauled by TransWood.
4. HANDLING AND STORAGE – PROTECT WORKERS AND THE ENVIRONMENT DURING CYANIDE HANDLING STORAGE.

4.1. 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.

This operation is

√ in full compliance
□ in substantial compliance Standard of Practice 3.1.
□ not in compliance

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike has two cyanide unloading and storage tank areas: (1) Wet Mill Area; and (2) Roaster Area. The Wet Mill Area has two 15,000 gallon cyanide storage tanks with one tank located inside the Mill Building and the other outside. Both tanks are provided with secondary containment. The Roaster Area has one 22,000 gallon tank located outside the building which has secondary containment.

The “Bulk Storage Cyanide Mixing & Distribution Slab on Grade” and other related designs for the cyanide storage tank and containments were developed by Kilborn dated October 1990. Review of the original design criteria that defined the steel tank, piping and concrete specifications by Kilborn Engineering was completed and stamped registered Professional Engineers in the State of Nevada indicating the containment areas were designed according sound engineering practices.

Goldstrike commissioned a study by Hatch (Hatch, November 10, 2006 – Barrick Goldstrike Wet Mill Liquid Cyanide Storage Facilities) to confirm the containment volumes for emergency spills and leaks from the cyanide storage tanks at the Wet Mill. Design information presented in the Hatch documents indicate that the secondary containments exceeds the State requirements and include 110 % storage of the single largest tank. The Hatch study was completed and stamped by a registered Professional Engineer in the State of Nevada.

The Hatch design provided specifications for cyanide process facilities including earthworks, foundation compaction, concrete, structural steel, pipelines, and tanks. Leavitt & associates Engineers, Inc. conducted another verification of the secondary containment at the Roaster cyanide storage tank in 2009.

Cyanco conducted a site survey in December 2008 focusing on how the cyanide is received, stored and handled at Goldstrike. Logistical issues for delivery were noted. The 2010 Recertification included the review of the letter from Cyanco to Goldstrike dated December 29, 2008.

The 2013 Recertification Audit confirmed that the above referenced documents are being retained on site and are available for review.
The unloading and storage areas are located away from public access and no surface water bodies are nearby. All personnel with access to the unloading and storage facilities, including contractors, receive site-specific health and safety training that includes cyanide hazard awareness. Traffic control at the Wet Mill area is controlled by roped-off access with signs requiring appropriate PPE to enter. The Roaster area cyanide unload area is located in an area of regular traffic but is well marked with signage. During an off-load, Goldstrike controls access by placing signed cones blocking out a Red Zone prohibiting access without the proper PPE (including rain-suits), rubber boots, rubber gloves, face shield, and goggles. An offload at the Roaster Area was observed during the 2013 Recertification audit. The operators were interviewed related to their understanding of the task and responsibilities.

The two cyanide unload pads are constructed with cast-in-place reinforced concrete with curbed containment that report to sumps for return to the process. The sumps have automated pumps with level control. The tanker unload containments allow containment and recovery of any and all spilled solution. Goldstrike has an inspection and preventative maintenance program for identification and patching of cracks. Inspection records and repair work orders were reviewed.

The Goldstrike cyanide storage tanks have level indicators and high level alarms that prevent overfilling. In addition, the cyanide levels within the tanks can be monitored from the respective control rooms.

Cyanco has remote telemetry monitoring of the cyanide tank levels to track cyanide usage and inventory, allowing them to dispatch cyanide loads when needed. The TransWood drivers and Goldstrike control rooms are required to verify the cyanide level prior to offloading.

The Wet Mill cyanide storage tanks consist of one tank outside with adequate ventilation and one tank inside the building with more limited, but in general, adequate ventilation provided by a wall fan. There is a fixed HCN monitor in the vicinity of the tank located inside the Wet Mill. (The Wet Mill cyanide storage also includes two small [known as the day tanks] storage tanks. These tanks are no longer used and have been rinsed. These tanks were operation during the initial certification audit for the distribution of 30 percent strength cyanide to the CIL and Carbon Strip tanks.) The cyanide storage tank at the Roaster Area is located outside with adequate ventilation but the reagent pumps are located inside with a fixed HCN monitor adjacent. This was re-confirmed during the 2013 Recertification Audit.

Goldstrike has isolated the cyanide unload and storage tanks away from incompatible chemicals such as acids and oxidizers. No smoking or eating is allowed near either of the cyanide storage areas. This was reconﬁrmed during the 2013 Recertification Audit.
4.2. **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.**

This operation is

- ✔ in full compliance
- ❑ in substantial compliance  Standard of Practice 3.2.
- ❑ not in compliance

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike receives only liquid cyanide through tankers. The liquid is transferred from the tanker to a storage tank and there are no empty cyanide containers that require disposal. Goldstrike has developed and implemented standard operating procedures: “Bulk Chemical Unloading Procedures” and “Cyanide Unloading Access.” Cyanco has a procedure titled “Sodium Cyanide Delivery Procedure” for safe and accurate delivery of cyanide. These procedures cover the responsibilities for the transporter and the site personnel.

Both Goldstrike and Cyanco’s offload procedures require appropriate personal protective equipment (PPE). Off-loading does not occur until a Goldstrike operator is present to observe compliance with the PPE requirements, truck parking and chocking, and to unlock the cap for the transfer piping. Both the transporter and control room check to confirm that the tank has sufficient capacity for the off-load. The Goldstrike operator is trained in the transporter PPE requirements, procedures, and emergency shut off locations. The Goldstrike operator provides an additional radio for use by the transporter. A Goldstrike operator is present during the making and breaking of connections and during the start of product flow. The offload is monitored via a video monitor during the entire offload process. Additionally, the Goldstrike operator and transporter have access to additional PPE, cyanide antidote, and oxygen in the case of an emergency. The transporter off-load procedures are designed to prevent the potential for release. These items were inspected and verified during the 2013 Recertification Audit.
5. OPERATIONS - MANAGE CYANIDE PROCESS SOLUTIONS AND WASTE STREAMS TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT.

5.1. STANDARD OF PRACTICE 4.1: IMPLEMENT MANAGEMENT AND OPERATING SYSTEMS DESIGNED TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT UTILIZING CONTINGENCY PLANNING AND INSPECTION AND PREVENTIVE MAINTENANCE PROCEDURES.

This operation is

✓ in full compliance  
□ in substantial compliance  
□ not in compliance  

Standard of Practice 4.1.

Summarize the basis for this Finding/Deficiencies Identified.

Prior to February 2012, Goldstrike operations utilized operating plans covering the management and operation of the cyanide facilities including a CIL Operating Manual (BGMI, updated March 2005), Strip Operating Manual (BGMI, January 2003) as reported in the 2010 Recertification Audit. The autoclave, CIL, and Strip circuits in the Wet Mill were constructed in sequential phases and the operation plans were developed and revised as the process circuit expanded. These plans and procedures cover the safe operation of the entire cyanide management facilities. These documents formed the basis for task specific standard operating procedures. The documents were updated as needed over the years as the process was expanded to increase production.

In February 2012 the operating procedures were consolidated into the “Mill/Pressure Oxidation (POX), Carbon-In-Leach, Computer-Based Training Operating Manual” and “Goldstrike Roaster Neutralization and CIL Computer-Based Training Operating Manual” that incorporate the documents described in the above paragraph into the appropriate area manual.

Additionally, Goldstrike has the North Block Tailings Disposal Facility Operations, Maintenance, and Surveillance (OMS) Manual (Tierra Group International, April 2013) and the AA Tailings Disposal Facility Operations Manual (Vector, May 2006) for operation and management of the tailings disposal facilities. Including above documents, verification of the written procedures included review of the specific task standard operating procedures (SOP), plans and interviews:

- Bulk Chemical Unloading Procedures,
- Cyanide Unloading Access,
- CIL Operator Responsibilities
- CIL Pre-Operational Inspection,
- CIL Start-up,
- CIL Tank Cleanout,
- Adjusting Cyanide,
- Free Cyanide Titration, and
- Cyanide Destruction System

In addition, Goldstrike has developed stand-alone task specific operating procedures (Computer Based Training Manuals). The operating procedures are covered under a
document control program and the most up to date versions are available on the mine’s intranet system.

Goldstrike has Fluid Management Plans developed for the two process circuits and the tailings impoundments (Wet Mill CIL and Strip, and the Roaster CIL [Water Pollution Control Permits No. NEV 91029 and No. NEV 90060]) that includes descriptions of the fluid management requirements for safe operation and regulatory compliance - this includes the requirement for 2 foot freeboard within all ponds other than the NBTDF which has a 7-foot freeboard requirement. The Water Pollution Control Permits issued by the Nevada Department of Environmental Protection (NDEP) also provide a detailed description of the applicable regulatory requirements that includes regular pumping and monitoring of leak detection and leak collection systems and reporting of quarterly supernatant pond quality. Verified during the 2013 Re-certification Audit.

Daily and weekly inspections are completed by the operators. Daily inspections for the Wet Mill CIL and Strip circuits and the Roaster CIL include safety and environmental concerns, reagent offload and storage areas, pH and cyanide, totalizers and flows, pond levels, and carbon area. Inspections records dated 2010 to 2013 were reviewed for the Recertification Audit.

Shift, daily and weekly inspections include visual evaluation of tanks and related piping for corrosion and leakage. The EAM preventive maintenance system includes annual ultrasound testing of the cyanide storage tanks to verify structure integrity. Depending on the tank five to nine points on the tanks wall thicknesses are ultra sound measured and recorded to confirm integrity. Wall thickness measurements for 2009 through 2012 were reviewed. Tank wall thicknesses for 2013 had not been taken at the time of 2013 Recertification Audit.

Shift, daily and weekly inspections include visual evaluation of the containments for cracking, solution levels, and drains functioning and that valves are locked.

Weekly inspection includes pumping of the leak detection and collection systems as required by the operation’s permits.

Shift, daily and weekly inspections are completed for the pipelines, pumps and valves to evaluate deterioration, damage, or leakage.

Daily and weekly inspections are conducted to determine and document the pond levels and integrity of surface water channels. Operators have information from the operations plan related to response actions required as the pond levels rise - a minimum 2 foot freeboard is specified. Surface water channel integrity and issues are repaired by inspecting operators where possible or supervisors are notified for a work order to be written and implemented.

Goldstrike utilizes a computer based system (EAM) for identifying, assigning responsibility, scheduling, and tracking the completion of the preventive maintenance activities. The EAM system identifies future activities for regular preventive maintenance and includes information on the task requirements and completion.

Barrick has a Management of Change (MOC) Procedure (dated 2009) that includes the methods to be used to manage changes at all Barrick Gold operations and sites. The procedure includes minimum standards to ensure changes that impact safety, health,
environment or productivity are identified, assessed, managed and appropriately communicated to all affected personnel. The MOC Committee considers the proposed change; identifies potential hazards, risks or impacts; determines controls to adequately mitigate or eliminate hazards, risks or impacts; and recommends approval to responsible superintendent. Prior to a change implementation, notification of the approved change will be communicated and necessary training will be provided. After the change has been implemented, the MOC Committee conducts a follow-up to address feedback, verify “actual impact” against “intended impact” and evaluate the performance of the change management cycle.

The MOC for the Paste Plant was reviewed to verify that Goldstrike has implemented its MOC procedures to evaluate and approve cyanide related changes. A hazardous risk assessment was conducted as part of the MOC for the Paste Plant Operations.

Goldstrike uses a SKF/MAINTelligence data collection with hand held units and pre-set routes for the pre-shift inspections. Each stop along the route is defined with a bar code at the area. The inspector is directed to a location, scans the code and enters inspection information. Qualified personnel have developed inspection locations and facilities and inspection information to be collected at each location. Goldstrike has established inspection frequency on a shift, weekly and monthly basis. These inspections are sufficient to assure and document that the cyanide facilities are functioning within the design parameters. Inspection information includes review of the pond levels and information on the performance of the pond leak detection systems. The preventive maintenance program also assures that the cyanide facilities are operating within the design parameters. The audit included review of shift logs maintained by operators, daily inspections forms and weekly inspection forms. The 2013 Recertification Audit included review of electronic records.

The Goldstrike preventive maintenance programs are designed to assure the continuous and safe operation of the equipment for cyanide management. The elements necessary for cyanide safety such as the HCN monitors are calibrated and tested on a monthly basis. The other preventive maintenance (PM) activities such as pump maintenance are on other frequencies developed based on the operating experience developed over past years of operation. Representative EAM preventative maintenance records for 2010 to mid-2013 were reviewed. Goldstrike has several mill maintenance critical task procedures including “Repair, Replace Piping and Valves Associated with Sodium Cyanide” and “Sodium Cyanide Piping and Pump Repairs.”

Goldstrike has emergency power generators to operate critical functions during power outages. Operating plans have been developed to include specific instructions on the critical components to be maintained during power outages. Backup generators are located at the Mill Building, the Autoclave, the Paste Plant, and other locations requiring power during a utility power failure. These generators are adequate to operate pumps and other equipment to prevent unintentional releases and exposures in the event its primary source of power is interrupted.

The generators are tested monthly by qualified contract electricians of a contract company. The preventative maintenance schedule and requirements for the generators is tracked through the MAINTelligence Program system. Inspection and testing record were reviewed from mid-2010 through mid-2013.
5.2. **STANDARD OF PRACTICE 4.2: INTRODUCE MANAGEMENT AND OPERATING SYSTEMS TO MINIMIZE CYANIDE USE, THEREBY LIMITING CONCENTRATIONS OF CYANIDE IN MILL TAILINGS.**

This operation is

√ in full compliance  
☐ in substantial compliance  
☐ not in compliance

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

Goldstrike has evaluated various control strategies for cyanide addition over the years of operation. The initial certification audit mentioned that Goldstrike used inline automated cyanide titrations and ion probes. But experience has shown that a more effective method of determining cyanide application rate is based on flow density and manual measurement of cyanide content.

Different strategies are used in the two milling areas for controlling the cyanide application rate. The Wet Mill uses a target cyanide concentration of 0.1 pounds CN per ton of ore (lbs/ton) in the first CIL tank with a residual concentration of 0.01 lbs/ton in the last tank. Cyanide content measured 3 times per shift from the first and last CIL tanks. If the cyanide content is lower than the target in the last tank the addition set point is increased in the first tank. The manually recorded cyanide concentration and pH are recorded on daily inspection forms. The Roaster Area has a cyanide concentration target of 0.1 lbs/ton in the last tank and is controlled and maintained by cyanide addition at the head tank.

In addition, metallurgical reports are prepared daily by the Metallurgical Department evaluating cyanide usage and gold recovery. Feedback is provided to operations on the need to adjust reagent usage relative to gold recovery. There is on-going work to reduce cyanide usage along with the desire to maximize gold recovery. This was verified during the 2013 Recertification Audit through discussions with site metallurgists.

5.3. **STANDARD OF PRACTICE 4.3: IMPLEMENT A COMPREHENSIVE WATER MANAGEMENT PROGRAM TO PROTECT AGAINST UNINTENTIONAL RELEASES.**

This operation is

√ in full compliance  
☐ in substantial compliance  
☐ not in compliance

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

Goldstrike has developed and used several water balances through their years of operation. A comprehensive water balance that tracked water flow throughout the entire site including the North Block Tailings Pool was prepared by Telesto Solutions, Inc. April 2004 (Dynamic Systems Model North Block Tailings Disposal Facility Water Balance). The Telesto analysis was a dynamic systems model calibrated to actual site conditions and set up to evaluate "what if" scenarios including probabilistic analysis of the precipitation. One of the conclusions shown by the Telesto model was that "storm water flows are of..."
little concern during operations because their magnitudes are miniscule compared to operational water volumes, and any storm water that contacts process materials is incorporated into the operational water balance. In 2006, Vector developed spreadsheet models that focused on the AA Tailings Disposal Facility and North Block Tailings Disposal Facility Pool to evaluate the impact of the 100 year, 24 hour storm event on varying conditions.

In 2012-2013, Golder Associates (Golder) prepared a probabilistic water balance model using GoldSim® to assess the overall water balance of the North Block Tailings Disposal Facility (NBTDF). The inputs were not as detailed as the inputs used in the 2004 model developed by Telesto but nonetheless reflected inflows to, and outflows from, the NBTDF. The results of the evaluation did not identify any potential problems with the overall water balance of the facility. Currently, Tierra Group International, Ltd. (Tierra Group) is preparing a spreadsheet-based probabilistic model using @RISK to allow probabilistic climatic inputs to be used for the evaluation of future operational management plans for the water in the NBTDF.


The rates at which tailings are deposited within the NBTDF are addressed by the water balance. The percentage of solids in the slurry is also accounted for in the water balance.

The minimum freeboard requirement that must be maintained within the NBTDF is seven feet measured from the existing water pool to the lowest elevation of the embankment. The freeboard allowance includes three (3) feet of allowance for wave run-up, approximately 1.5 feet of allowance to store the runoff from the 24-hour Probable Maximum Precipitation event (PMP), and 2.5 additional feet of freeboard to accommodate any process-related upset conditions that may affect the facility. The ability to store the runoff due to the 24-hour PMP provides a high degree of certainty that overtopping the NBTDF would not occur during a storm event. The depth of the 24-hour PMP (7.75 inches) represents receiving approximately 70% of the annual precipitation normally received at the site in a 24-hour period.

In addition to the operational requirement of maintaining seven feet of freeboard, Goldstrike is also required to constrain its pond to a maximum surface area within the NBTDF due to permitting constraints enforced by the Nevada Division of Environmental Protection (NDEP). Quarterly surveys of the free water pool and the tailings are completed, with the results submitted to NDEP for review. If at any time the free water pool exceeds the limits established by NDEP, Goldstrike must submit a corrective action plan to bring the pond back to within its areal limits. This permit limitation prevents the accumulation of excessive water on the impoundment surface and ensures adequate storage for extreme precipitation events.

The data used in the water balance evaluations have been collected at the site immediately adjacent to the NBTDF. As such, the data used in the water balance analyses are the best possible representation of the climatic conditions at the NBTDF. Both precipitation and pan evaporation data are collected at the site. In the event there are data gaps (due to malfunctioning equipment), there are two other weather stations operated by Goldstrike (one at the site at the Water Management building, the other in Boulder Valley) that can be used to obtain data.

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The NBTDF does not have a significant upstream contributory catchment area; however, for the water balance analyses completed, runoff from the contributory area located upgradient of the lined portion of the facility was included in the storm water flows.

The potential freezing and thawing of tailings within the impoundment does not have any significant effect on the water balance for the facility. Variations in weather, including the potential accumulation of snow in the area upgradient of the NBTDF, have been incorporated into the water balance.

The NBTDF is a zero discharge facility meaning there is no allowable discharge of water from the facility to the environment. Water stored within the facility is primarily recycled into the Mill and Roaster processing circuits for eventual consumption in the process streams. Flows from the over-drains located beneath the facility are contained within a collection sump and pumped back to the NBTDF. In addition, during drier months, excess water from the NBTDF can be transferred to the AA Tailings Storage Facility (TSF) where a battery of 16 snowmaker-type evaporators is operated to reduce excess fluid inventories in the process circuit. All evaporation activities are completed within the lined containment of the AA TSF. The collection of flows from the solution collection sumps are accounted for in the NBTDF water balance.

The Goldstrike water balance includes the potential effects of equipment failure and power outages with the capacity of the pond system being available for gravity flow. In the event of a power outage, Goldstrike has back-up generators to supply power to the pumps in the NBTDF. In the event of a short-term loss of power, there would be no significant effect on the water balance within the NBTDF. The power loss would prevent water from being recycled to the Mill and Roaster, however, if there was no power at the Roaster and Mill, no additional flows would be entering the facility. The NBTDF seepage collection sump and overflow pond have a combined capacity to store approximately 11 days of draindown at the current rates without returning any flow to the NBTDF.

Goldstrike is a zero discharge facility and the water balance does not consider treatment and discharge to surface water.

The NBTDF is a lined facility with an over-drain that consists of perforated polyethylene pipe contained within a gravel drain. The drains promote the consolidation of the tailings and limit the head on the liner (to minimize leakage through the liner). All flows entering the over-drain report to a seepage collection sump located at the southwest corner of the NBTDF. All flows are collected and pumped back into the NBTDF. The phreatic surface in the tailings does not impact the overall storage capacity of the NBTDF. The storage of process solutions and stormwater flows is primarily achieved through surface storage in the free water pool on top of the tailings.

The Goldstrike inspection and monitoring programs require that operating levels in the tailings disposal facilities and other ponds be recorded daily to ensure there are no adverse impacts to the water balance. Daily visual inspections of the NBTDF are conducted by operations personnel. Daily inspections also occur at the seepage collection sump to ensure there is no potential for the release of cyanide solutions to the environment. Quarterly surveys of the tailings and water pool are also completed to assess overall facility conditions and allow the total volume of tailings and water stored within the facility to be tracked against the known storage capacity. The water balance is
updated on an as needed basis to support tracking and evaluation of the system to prevent overtopping and discharge

Goldstrike measures precipitation at three weather stations: the North Block Weather Station, the Water Management Weather Station, and in Boulder Valley for incorporation into the water balance for calibration and evaluation. The North Block Weather Station is located to the west of the NBTDF and provides local climatic monitoring. In addition to precipitation, pan evaporation, wind speed/direction, air temperature, solar radiation, and relative humidity are measured. Climatic data are stored on dataloggers which are downloaded on a regular basis. Climatic data are stored in an on-line (Internet-based) database system to facilitate access by operations personnel. Climatic data are regularly reviewed to compare to design assumptions.

5.4. **STANDARD OF PRACTICE 4.4: IMPLEMENT MEASURES TO PROTECT FISH AND WILDLIFE FROM DIRECT AND INDIRECT DISCHARGES OF CYANIDE PROCESS SOLUTIONS TO SURFACE WATER.**

This operation is

- [ ] in full compliance
- [ ] in substantial compliance  Standard of Practice 4.4.
- [ ] not in compliance

Summarize the basis for this Finding/Deficiencies Identified

Goldstrike has implemented several different measures to restrict access by wildlife and livestock to open solutions containing cyanide. The primary approach employed is to eliminate open process solution ponds to the degree practical. Goldstrike has all pregnant and barren solution maintained in tanks. The only cyanide bearing solutions exposed to the environment are the supernatant ponds on the two tailings impounds and the underdrain ponds. The underdrain solutions are generally contained in enclosed vaults for direct pumping back to the impoundments. The tailings impoundment supernatant ponds are maintained well below the 50 mg/L WAD cyanide. Other measures include: a perimeter fence to prevent livestock access and chain link fences around the underdrain ponds. Results of water quality samples of the tailings solution prior to discharge into the tailings facility were reviewed for verification during the 2013 Recertification Audit.

Goldstrike has relatively large open water area within the NBTDF. The supernatant area in the AA Tailings Disposal Facility has diminished because no active spigoting of tailings is occurring. Goldstrike’s requirements for the tailings supernatant ponds are to maintain WAD cyanide levels below 50 mg/L. Goldstrike monitors WAD cyanide concentrations in the tailings discharge and decant pond on a shift basis. These results are used by the Mill personnel in the determination of the Caro’s Acid addition rate in the detoxification circuit; and the Roaster personnel in the INCO addition rate in the detoxification circuit. In addition to the daily samples, Goldstrike reports quarterly sample results to the Nevada Department of Environmental Protection (NDEP) for the supernatant pond WAD cyanide concentrations. Review of the 2010 through mid-2013 data indicates that the spigot discharge is generally below 20 mg/L with the supernatant reclaim solution below 1 mg/L.

Goldstrike’s cyanide detoxification practices are effective in preventing wildlife mortality on the open water in the spigot discharge and supernatant pond. Goldstrike has an
Industrial Artificial Pond permit (Permit No. S-26590) with the Nevada Department of Wildlife (DOW). Under the provisions of this permit the operation is required to conduct mortality monitoring and report all wildlife mortalities regardless of cause of death. All Mine staff is trained in the monitoring and reporting requirements. No cyanide related mortalities have been reported from the time period of the previous recertification audit (April 2010) to April 2013. Goldstrike does not dispose of wildlife carcasses until authorized by Nevada Department of Wildlife (NDOW). If there is a question whether the mortality is related to cyanide, NDOW has the authority to require testing.

5.5. **STANDARD OF PRACTICE 4.5: IMPLEMENT MEASURES TO PROTECT FISH AND WILDLIFE FROM DIRECT AND INDIRECT DISCHARGES OF CYANIDE PROCESS SOLUTIONS TO SURFACE WATER.**

This operation is

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

**Standard of Practice 4.5.**

Summarize the basis for this Finding/Deficiencies Identified

Goldstrike does not discharge cyanide solutions to surface waters. Goldstrike operates with zero discharge of process solutions. Verified through review of the Water Pollution Discharge Requirements and quarterly and annual reports to the NDEP for the time period of the previous recertification audit (April 2010) to April 2013.

Goldstrike does not have any indirect discharge of cyanide solutions to surface waters. Goldstrike operates with zero discharge of process solutions. Goldstrike conducts monitoring to characterize the seepage collection systems, leak detection systems, and surface water quality. Surface water is sampled in Rodeo, Brush, and South Bell Creeks on a seasonal basis when natural runoff/flows are expected.

5.6. **STANDARD OF PRACTICE 4.6: IMPLEMENT MEASURES DESIGNED TO MANAGE SEEPAGE FROM CYANIDE FACILITIES TO PROTECT THE BENEFICIAL USES OF GROUND WATER.**

This operation is

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

**Standard of Practice 4.6.**

Summarize the basis for this Finding/Deficiencies Identified

Goldstrike has implemented solution management and seepage control systems to protect ground water below and down gradient of the operation.

The Goldstrike cyanide facilities include: the NBTDF and the AA Tailings Disposal Facility. These facilities and process ponds have all been constructed with liners to prevent seepage. The AA Tailings Disposal Facility has a clay core embankment and clay liner extending underneath the impoundment footprint. The North Block Tailings Disposal Facility is lined with a composite liner system consisting of compacted low permeability soil through stage seven overlain by a synthetic liner. The liner is an
alternate geosynthetic clay liner (GCL) overlain by a 80-mil HDPE liner through stage six and a GCL overlain by a 60-mil linear low-density polyethylene (LLDPE) liner in stages 7, 8 and 9A. The synthetic liner is overlain with a coarse rock drainage system, or full blanket drain, in the southwest portion of the impoundment where the supernatant pond is location. Finger drains, also constructed with coarse rock, connect to the full blanket drain, and collect fluid from the tailings in the area upgradient of the supernatant pond to the perimeter of the basin. This drainage blanket is designed to intercept and remove tailings fluid from the top of the liner to minimize hydraulic head. Piezometers were installed at various locations and depths within the impoundment, including paired piezometers in the blanket drain, to monitor hydraulic pressure on the liner system at specific locations and to ascertain proper operation within the impoundment. The fluid collected in this drainage system is collected in pipes, which drain to the drainage collection vault. From the vault, the fluid is pumped back into the process or the tailings impoundment. A double-lined, 2.5 million gallon overflow pond, located adjacent to the collection vault, is lined with HDPE with a geonet/gravel-filled sump leak detection and collection systems installed between the liners for monitoring. The two TSFs have been designed and operated to promote evaporation and develop consolidated tailings.

Review of the Goldstrike environmental monitoring data (Annual Monitoring Reports, 2010, 2011, and 2012 for Water Pollution Control Permits) showed that measured cyanide concentrations in the groundwater monitoring wells was well below the groundwater standard (Drinking Water Standard) of 0.2 mg/l of total cyanide. The bulk of the measured concentrations were <0.01 mg/L of WAD cyanide. However, in 2011 a value of 0.025 mg/l of WAD cyanide was measured in one of the wells. Still, groundwater monitoring at compliance points or down gradient of the operation indicate that Goldstrike operations are protective of the beneficial uses of ground water.

Goldstrike has constructed and is in the process of commissioning a paste backfill facility at the Wet Mill. Planning for the facility included an evaluation of the potential effects on groundwater as reported in “Barrick Goldstrike, Evaluation of the Environmental Behavior of Cemented Paste Backfill”, Schafer Limited LLC, January 2011. The report concluded that:

“Placement of cemented paste tailings as backfill in the…underground mines will have a beneficial effect on groundwater that will flow around backfill areas during groundwater recovery and after the mines have flooded. Cemented paste tailings will maintain an alkaline chemical environment that is similar to the high alkalinity found naturally in the Carbonate Aquifer. Although the first flush of water contacting paste backfill may contain elevated levels of major ions, once groundwater begins to flow through the mines contact with the cemented paste will not significantly alter water quality. Test results showed most constituents in water contacting cemented paste had similar levels to those found naturally in groundwater, were below relevant water quality standards, and were usually less than levels measured in Meteoric Water Mobility Procedure extracts from rock samples collected from stope walls.”

Evaluations of the health risk to miners in the use of paste backfill was determined to be minimal in that: (1) The tailings are subjected to cyanide destruction prior to thickening and mixing with cement and fly ash and subsequent placement underground; and (2) The mine is ventilated.
5.7. **STANDARD OF PRACTICE 4.7: PROVIDE SPILL PREVENTION OR CONTAINMENT MEASURES FOR PROCESS TANKS AND PIPELINES.**

This operation is

- [√] in full compliance
- [ ] in substantial compliance  Standard of Practice 4.7.
- [ ] not in compliance

Summarize the basis for this Finding/Deficiencies Identified

Goldstrike has spill prevention and containment measures for the cyanide unload areas, the associated storage tanks, and CIL tank process areas. There are sumps with automated pumps within the containments to transfer solutions into the process circuit. The containments are constructed of cast-in-place reinforced concrete.

Goldstrike has two cyanide unloading and storage tank areas: (1) Wet Mill; and 2) Roaster Area. Goldstrike commissioned a study by Hatch (Hatch, November 10, 2006 – Barrick Goldstrike Wet Mill Liquid Cyanide Storage Facilities) to confirm the containment volumes for emergency spills and leaks from the three cyanide storage tanks at the Wet Mill cyanide storage area. The Hatch study was completed and stamped by a registered Professional Engineer in the State of Nevada. The “Bulk Storage Cyanide Mixing & Distribution Slab on Grade” and other related designs for the cyanide storage tank and containments were developed by Kilborn dated October 1990. The Roaster Area unload and storage tank area was designed by Hatch (March 1998) within a concrete secondary containment. The 2013 Recertification Audit confirmed that these documents are being available for review on site.

Goldstrike has constructed all pipelines with spill prevention and containment measures to collect leaks and prevent releases. The pipelines are constructed either as pipe-in-pipe configuration and/or within lined ditches. The Wet Mill tailings slurry conveyance pipeline is constructed to flow back to the Valdez Pond. The Valdez Pond is an HDPE lined pond with leak detection. The pond is maintained as empty to provide containment for emergency events such as the drainage of tailings pipeline from the AA Tailings Disposal Facility. The Cole’s Crater Pond located near the Roaster is also an HDPE lined pond with leak detection and provides containment for emergency events such as the North Block tailings line draining back to the plant. These ponds are designed to accommodate the tailings pipeline drainage volumes plus stormwater as described in their Fluid Management Plan. The pipelines and Ponds (Valdez and Cole’s Crater) have not changed since the initial certification audit. Reconfirmed during the 2013 Recertification Audit.

Goldstrike does not have any perennial or ephemeral surface water bodies that require special protection needs for pipelines. All pipelines have secondary containment, either as a pipe-in-pipe configuration or a pipe within an HDPE lined conveyance channel. The tailings pipeline network from the Roaster circuit has a section of pipelines located on the North Block Tailings Disposal Facility embankment outslope that have a triple pipe-in-pipe configuration to provide special protection.

Goldstrike uses socket welded steel-piping, HDPE pipelines, and HDPE lined steel which are compatible materials for the conveyance of high pH cyanide solutions and slurries.

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5.8. **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.**

This operation is

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

Standard of Practice 4.8.

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

Quality control and quality assurance (QC/QA) programs have been required during construction for cyanide facilities including the cyanide storage facilities, pipelines, conveyance ditches, process ponds, and tailings impoundments.

QC/QA documentation for the cyanide storage and process facilities includes the original design package drawings and construction modifications (Kilborn International, Inc. 1994). These as-built drawings including the construction modifications provide the detailed information for soil compaction, piping and tank steel specifications, concrete and reinforcement specifications.

Goldstrike has completed QC/QA programs to document construction and modification of all cyanide tailings impoundment facilities. The North Block Tailings Disposal Facility Stage 1 Report (Knight Piesold, March 1994) was constructed between July 1993 and January 1994. Other as-built documentation for the North Block facility include North Block Tailings Disposal Facility Stage 2 Construction Report (Knight Piesold, December 1995), North Block Tailings Disposal Facility Stage 3 Construction Report (Knight Piesold, June 1998), and North Block Tailings Disposal Facility Stage 4 Report of Construction (Knight Piesold, January 2000), North Block Tailings Disposal Facility Stage 5 2001 Construction, Record of Construction Report (Knight Piesold, March 2002), North Block Tailings Disposal Facility Stage 5B Record of Construction Report (Knight Piesold, May 2003), North Block Tailings Disposal Facility Stage 6A Record of Construction Report (Knight Piesold, March 2004), North Block Tailings Disposal Facility Stage 6B Intermediate Raise As-Built (Vector, October 2004), North Block Tailings Disposal Facility Stage 7 (Vector, August 2006) and North Block Tailings Disposal Facility Stage 8 (Tetra Tech, January 2008). These reports appropriately describe the field observations; and testing of subgrade, basin seal material, embankment fill, underdrain and finger drain material. Additional documentation includes description of the drainage collection facilities

A quality control and quality assurance programs were followed during the installation of piping at tanks A and B of the Mill CIL circuit and the Phases 7, 8, and 9A raises of the North Block Tailings Disposal Facility, and the Paste Backfill Plant. The new piping for tanks A and B of the Mill CIL circuit are 304 stainless steel. The pipe welds were hydrostatically tested by Brahma Group, Inc. in February 2010 using test criteria ASME Section 1. (Also for the 2013 Recertification reference to: “Barrick Goldstrike Mines Inc., North Block Tailings Disposal Facility, Stage 9A As-Built Report” by Tetra Tech, February 29, 2012 and Paste Plant As Built Report by Golder Associates, March 18, 2013).

Nevada Division of Water Resources Dam Safety Inspections are conducted annually for both the AA and North Block tailings storage facilities. Annual reports were reviewed for 4 to 7 June 2013

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Goldstrike has implemented QC/QA programs for all earthworks projects related to tank foundations, compacted subgrades, clay liners and geomembrane liners for ponds. These QC/QA reports include information on subgrade preparation, grading, soil liner material properties and compaction characteristics, leak detection construction, solution collection piping, geomembrane liner seams and testing. The reports include copies of the field inspection reports, lab and field data, construction observations, and photographs.

Goldstrike has retained qualified engineering personnel to review and provide construction verification documentation. The QC/QA reports are stamped by Professional Engineers licensed in the State of Nevada. These QC/QA documents have also been reviewed and approved the Nevada Department of Environmental Protection.

5.9. **STANDARD OF PRACTICE 4.9: IMPLEMENT MONITORING PROGRAMS TO EVALUATE THE EFFECTS OF CYANIDE USE ON WILDLIFE, SURFACE AND GROUND WATER QUALITY.**

This operation is

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

Standard of Practice 4.9.

Summarize the basis for this Finding/Deficiencies Identified

Goldstrike established written procedures within its “Sampling and Analysis Plan Barrick Goldstrike Mines Inc. Water Quality, Air Quality and Waste Management Monitoring” (prepared by BGMI with assistance by JBR Environmental Consultants, Inc. September 2005) and updated in July 2007 and August 2009. Qualified environmental staff from Goldstrike updated these written procedures to include the paste operation in their April 2011 “Sampling and Analysis Plan Barrick Goldstrike Mines Inc.”

The sampling and analytical protocols have been developed by appropriately qualified environmental professionals. The plan includes a Quality Assurance and Quality Control (QA/QC) Plan. These procedures have been reviewed and approved by Nevada Department of Environmental Protection. Section 3 of the April 2011 “Sampling and Analysis Plan Barrick Goldstrike Mines Inc.” included general sampling and protocols for the paste operations. Specific sampling and analytical procedures were identified in examples of individual permits. As an example, the Water Pollution Control Permit (NEV0091029-2010 Update) references standard sampling and analysis requirements and protocols that need to be conducted under those permit conditions.

Locations of sampling sites and sample parameter lists including cyanide species are also specified. Chain of Custody procedures and specific analysis and frequencies and procedures are included. These procedures were updated in their April 2011 “Sampling and Analysis Plan Barrick Goldstrike Mines Inc.” to account for the paste backfill facility and associated permit requirements.

The April 2011 “Sampling and Analysis Plan Barrick Goldstrike Mines Inc.” presents the requirements for documenting sampling conditions and procedures. Review of the chain of custody forms and sampling log books indicate information related to conditions and associated permit requirements.

[Signature]

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actual procedures used is being collected. Examples from quarterly groundwater sampling events from Bell Creek and Boulder Valley (201002013) showed that written documentation concerning sampling procedures; sample identifications number, COCs and analyses from a Nevada Certified laboratory were being conducted.

Goldstrike does not discharge cyanide process waters to surface water. Goldstrike maintains a discharge permit for the discharge of pit dewatering water into infiltration cells, ranch irrigation and to surface water (Renewal in May 2012). Note: A revised discharge permit for discharge of pit water to Boulder Valley was submitted in May 2012 to account for the Petroleum Contaminated Soil (PCS) that will be managed on-site. A renewal of the Boulder Valley Recirculation Permit received a letter from NDEP on 8 February 2013 that the application was considered complete and is under review. WAD cyanide is a parameter routinely analyzed and the results included in reports to NDEP. The pit dewatering does not contain cyanide. Goldstrike also monitors ground water up-gradient and down gradient of the operation. Review of the March 2013 sampling event showed <.0.050 cyanide or non-detect.

Goldstrike provides wildlife mortality training to all employees with an annual refresher. Each employee is responsible for filing a report should they encounter wildlife mortality. The dead animal cannot be moved without permission from the Environmental Department. Animals suspected of cyanide mortality must be reported to the Nevada DOW. Further testing can be required by DOW to determine the cause of death. Because all employees are trained and tasked with wildlife observation there is effectively continuous monitoring at Goldstrike. Per interviews and review of records, no mortalities due to contact with cyanide solutions have been reported in the last 3 years.

Goldstrike conducts monitoring at frequencies adequate to characterize the ground water, seepage collection systems, leak detection systems, wildlife, and process solutions. Ground water samples are collected and analyzed on a quarterly basis. The seepage collection systems are sampled on a quarterly basis. Surface water is sampled in Rodeo, Brush and South Bell Creeks on a seasonal basis. The leak detection systems are pumped on a weekly basis and reported as a daily average. The wildlife monitoring is continuous while employees are outside on the property. Process solutions are monitored at least daily and in many cases several times per day or at least once per shift change. NDOW reports were reviewed for the time period since the initial certification audit to first quarter of 2013.

Per the Water Pollution Control Permit NEV0091029 (2010 Update) concerning the paste operations that are currently in the commission phase, the following procedures will be followed:

- Samples will be taken from the Filter Cake and tested for levels of WAD cyanide;
- Paste samples will be taken prior to pumping and subjected to slump measurement procedures, and
- Cylinders of paste will be made and allowed to cure for 28 days, after which they will be characterized by MWMP testing at a Nevada Certified laboratory.
6. **DECOMMISSIONING – PROTECT COMMUNITIES AND THE ENVIRONMENT FROM CYANIDE THROUGH DEVELOPMENT AND IMPLEMENTATION OF DECOMMISSIONING PLANS FOR CYANIDE FACILITIES.**

6.1. **STANDARD OF PRACTICE 5.1: PLAN AND IMPLEMENT PROCEDURES FOR EFFECTIVE DECOMMISSIONING OF CYANIDE FACILITIES TO PROTECT HUMAN HEALTH, WILDLIFE AND LIVESTOCK.**

This operation is

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

Standard of Practice 5.1.

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike prepared a Conceptual Reclamation Plan (Nevada Reclamation Permit #0026 and #0030) as well as an internal Life of Mine Plan with written procedures to decommission the cyanide facilities including: process ponds, processing facilities and tailings facilities. The plans include general descriptions of the commitments for management of cyanide solutions, encapsulation of solids with covers, collection and control of seepage, and rinsing and disposal of piping and other equipment. In addition to the Reclamation Plan review, Goldstrike has protocols for the cyanide facility decommissioning of the equipment and materials that have come into contact with process solutions including cyanide compounds (Goldstrike Process Facility Decontamination Procedure, December 2009). The December 2009 plan was updated in April 2012 to include a paste slurry process operation utilizing tailings produced from the roasting process to provide backfill for underground operations.

The above referenced Goldstrike Life of Mine Plan includes a revised reclamation schedule. The Life of Mine Plan includes an additional period for the long term seepage management of cyanide solutions from the heap leach and tailings facilities extending 20 years after the end of earthworks for cover placement and monitoring. The plan is estimated to be conducted in two Phases with Phase I at two years and Phase II at 18 years. The plan was updated to be inclusive of decommissioning the paste facility. Solution management for both tailings facilities includes evaporation as the proposed approach for solution reduction. Process ponds and processing facilities will be decommissioned when not required for the solution management.

Goldstrike is required by Nevada State and Department of Interior - Bureau of Land Management regulations and their permit requirements to review and update the Reclamation Plan at least every three years. Additional reporting requirements by Security Exchange Commission require that mine closure liabilities be reevaluated every year. The most recent update to the reclamation plan for the two permits (#0026-Goldstrike and #0030-Meikle) was in April 2012.

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6.2. **STANDARD OF PRACTICE 5.2: ESTABLISH AN ASSURANCE MECHANISM CAPABLE OF FULLY FUNDING CYANIDE RELATED DECOMMISSIONING ACTIVITIES.**

This operation is

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

Standard of Practice 5.2.

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike has developed a cost estimate for the funding of third party implementation of the decommissioning activities. The cost estimate has been reviewed and approved by the Nevada State and Department of Interior Bureau of Land Management in a letter dated 1 October 2012. The total reclamation estimate for both permits (#0026 and #0030) is approximately $196.2M, and includes cyanide detoxification, water treatment, stabilization, decommissioning and long term seepage management of cyanide solutions from the heap leach and tailings facilities.

Goldstrike is required by Nevada State regulations and Department of Interior Bureau of Land Management to review and update the cost estimate at least every three years or as required by changes in planned disturbances. Additional reporting requirements by Security Exchange Commission require that mine closure liabilities be reevaluated every year. Barrick Gold Corporation requires ongoing review and update of the Life of Mine Plan. The most recent update to the closure costs was in April 2012 that included costs for decommissioning of the paste operations.

Goldstrike has established approved financial mechanisms to cover the estimated costs for cyanide related decommissioning activities. These mechanisms include Letters of Credit, Surety Bond and Corporate Guarantee totaling $196.290 M.
7. WORKER SAFETY – PROTECT WORKERS’ HEALTH AND SAFETY FROM EXPOSURE TO CYANIDE.

7.1. STANDARD OF PRACTICE 6.1: IDENTIFY POTENTIAL CYANIDE EXPOSURE SCENARIOS AND TAKE MEASURES AS NECESSARY TO ELIMINATE, REDUCE OR CONTROL THEM.

This operation is

✓ in full compliance
□ in substantial compliance
□ not in compliance

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike has Operating Plans and SOPs that describe the management and operation of the cyanide facilities. Goldstrike’s plans and procedures cover the safe operation of the entire cyanide management facilities. The documents have been updated as needed over the last three years as changes in the process have been made. The following SOPs and Plans were reviewed:

- The AA-Block Process Area (The Wet Mill)
  - Bulk Chemical Unloading Procedures;
  - Safe Job Procedure Sodium Cyanide;
  - CIL Emergency Start Stop;
  - Switching CIL Tails Pumps;
  - Derrick Screen Maintenance;
  - Repair/Replace Piping & Valves Associated with NaCN;
  - CIL Sampling;
  - PPE Requirements;
  - CIL Paperwork, Logbook;
  - Bypassing CIL Tank;
  - Cyanide Destruction System;
  - Adjusting Cyanide;
  - Operator Responsibilities;
  - Switching CIL Tails Pumps;
  - Filling a CIL Tank;
  - Strip Circuit – Carbon handling;
  - Strip Circuit – Pre-Op Inspections;
  - Strip Circuit – Samples and Rounds Procedure;
  - Strip Circuit – Solution sample Collection; and
  - Operating Plan for Goldstrike Autoclave Facility.

- The North Block Process Area (the Roaster)
  - The Neutralization and CIL Operating Manual;
  - Cyanide Unloading Access;
  - Adjusting Cyanide;
  - CIL Tank Cleanout;
  - CIL Pre-Op;
  - CIL Start-up;
  - HCN Gas Detection;
  - Cyanide Destruction;
  - Process Sampling;
  - Hauling Carbon;
  - Titration for Free Cyanide;
- Emergency Tails Line Draining;
- Sodium Cyanide Piping and Pump Repairs;
- Confined Space Entry Policy;
- Safety Job Procedure for Sodium Cyanide;
- Safety Showers and Eyewash Stations;
- Goldstrike Process Facility Decontamination Procedure;
- Operating Plan for Goldstrike North Block Tailings Facility; and
- Emergency Action Plan for North Block Tailings Impoundment (June 2006).

These procedures are detailed for the risk involved with each task and adequately describe safe work practices. Each SOP has an Introduction, Purpose, Definitions, Responsibilities and Procedure. Task specific PPE requirements are stated in each SOP. The PPE requirements and the work area job hazards are appropriate for each task. The Safety Job Procedure for Sodium Cyanide describes PPE; health hazards, first aid; spills; fires; hazardous chemical reactions and storage. The Solid and Hazardous Waste Management Plan (dated June 2009) applies for both process sites and describes cyanide spill actions.

Verification of written procedures included: (1) review of the existing procedures and/or plans which have been revised since February 2007 (date of the Initial Code Certification Audit); and (2) interviews with process and safety personnel.

The SOPs describe the use of PPE and address work inspections for cyanide related tasks. Each procedure identified in Section 6.1.1 requires the use of appropriate PPE for those specific tasks. Goldstrike has also signage for PPE requirements located at the entrances of the process areas. Goldstrike general safety induction and cyanide refresher training discuss PPE requirements.

Goldstrike has an SOP titled “Pre-Operational Procedure (CIL-SOP-04) that requires pre-work inspections to be conducted every shift of all equipment and work areas to identify any hazards that may pose a threat to employees. The operators are required to perform a Field Level Risk Assessment (FLRA) and record in the FLRA form. Pre-work inspections include all safety equipment, emergency equipment, piping, containments, and equipment used in the area. Identified deficiencies are noted and corrected or reported to supervisor for corrective action.

Goldstrike has an operator who supervises unloading hook-up and disconnection and verifies that the Transwood driver wears the designated PPE, that the level in the cyanide storage tank is adequate and that there are no leaks or problems present during unloading.

In addition, detailed weekly inspections are conducted in both process areas. Weekly inspections includes cyanide unloading area, tanks and containments, piping, housekeeping, distribution pumps, sump pumps, cyanide rescue kits (amyl nitrite and oxygen), safety showers, and tails lines. Inspections in the Roster area is performed through work orders and checklists; and inspections at the Wet Mill utilize handheld code readers that display a specific checklist for the different pieces of equipment. Inspections records were reviewed to verify compliance.

Barrick has a Management of Change (MOC) Procedure (dated 2009) that includes the methods to be used to manage changes at all Barrick Gold operations and sites. The procedure includes minimum standards to ensure changes that impact safety, health, environment or productivity are identified, assessed, managed and appropriately...
communicated to all affected personnel. The MOC Committee considers the proposed change; identifies potential hazards, risks or impacts; determines controls to adequately mitigate or eliminate hazards, risks or impacts; and recommends approval to responsible superintendent. The previous is documented in the form of a Formal Risk Assessment (FRA) with proposed mitigation measures and the assessment of the residual risk. Prior to a change implementation, notification of the approved change will be communicated and necessary training will be provided. After the change has been implemented, the MOC Committee conducts a follow-up to address feedback, verify “actual impact” against “intended impact” and evaluate the performance of the change management cycle.

An example of MOC was reviewed to verify that Goldstrike has implemented its MOC procedures to evaluate and approve cyanide related changes. The change was the updated MOC for the paste plant. The respective HRA included the hazards of worker exposure to cyanide and was last reviewed in December 2012.

Verification included interview with process, safety and environmental personnel and review of an examples of change management.

Goldstrike solicits worker input in developing and evaluating health and safety procedures. The solicitation is through weekly safety meetings in each department. Goldstrike also solicits worker participation through the FLRA form (which includes a section to provide feedback named IMPACT) that every employee has access to fill out. All the suggestions are recorded in the IMPACT database and their status is controlled (recently received, further clarification needed, approved, implemented, postpone or discarded).

7.2. 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.

This operation is

✓ in full compliance

☐ in substantial compliance

☐ not in compliance

Standard of Practice 6.2.

Summarize the basis for this Finding/Deficiencies Identified.

The operating manual (included in the on-line training materials) for the Roaster recommends an operating pH of 9.5 to 10.5 for loading (adsorption) and a pH above 12.0 for stripping (desorption).

The Autoclave Department CIL Sampling Procedure (included in the in the on-line training materials) also recommends a pH value of the slurry between 9.5 and 10. During cyanide unloading the pH should be maintained at a minimum of 11. Goldstrike continually samples the pH to maintain its concentration high enough to prevent the generation of hydrogen cyanide gas (HCN). Goldstrike also has an SOP “Free Cyanide Titration” to confirm cyanide concentration in the CIL and stripping circuit.
The control panel operator can review this parameter in their screen at key operations (e.g. CIL tanks) and additionally, manual readings are collected. Daily pH logs were reviewed to verify that the pH was maintained as recommended.

Verification was through interviews with process personnel and review of SOPs and Operating Plans (e.g., BGMI Neutralization and CIL operating Manual).

Liquid cyanide is used in a 30% concentration. The pH is monitored and maintained to prevent the formation of HCN. The Wet Mill cyanide storage tanks consist of one tank outside with adequate ventilation, and one tank inside the building with more limited, but in general, adequate ventilation related to installed wall fan. The Wet Mill has three fixed HCN monitors: one in the cyanide storage building and two in the carbon strip area. The Roaster Area cyanide storage tank is outside but the reagent pumps are located inside with a fixed HCN monitor.

HCN sensors are set at 4.7 ppm low level alarm and 10 ppm high level alarm. In addition to an audible alarm, there are warning lights and an alarm display on the Control Room DCS Bailey System. The CIL and carbon strip operators all carry portable HCN monitors with alarms also set up at 4.7 ppm (low level alarm) and 10 ppm (high level alarm).

Verification was through interviews with process personnel, visual inspection of HCN monitors, and review of monitor calibration electronic records.

Goldstrike has identified areas and activities where workers may be exposed to cyanide and include PPE in the SOPs identified in Section 6.1. Personal HCN monitors are worn by operators when they are conducting cyanide related activities (unloading, titration sampling, maintenance and others.). The Wet Mill area has three fixed HCN monitors: one in the cyanide storage building and 2 in the carbon strip area. The Roaster also has one fixed HCN monitor in the reagent pump area.

Goldstrike has HCN monitors calibration procedures. Verification was through interviews with process and health and safety personnel and review of calibration records. Goldstrike has fixed HCN monitors (TOXGARD II) in the Wet Mill cyanide storage area (1 monitor), the Wet Mill carbon strip area (2 monitors) and the Roaster cyanide pump area (1 monitor). Fixed HCN monitors are calibrated monthly by the Instrumentation Department. Calibration records are retained for at least one year.

Goldstrike has 16 hand-held HCN meters (12 Industrial Science meters and 4 ITX meters) distributed in both process areas. Handheld meters are bump tested daily and calibrated monthly according to manufacturer’s instructions by trained instrumentation personnel. Electronic calibration records were reviewed.

Warning signs are in areas where cyanide is used to alert workers that cyanide is present, that smoking, open flames, eating and drinking are not allowed and that the necessary cyanide-specific PPE must be worn. Verification was through visual inspection of the signs located in areas where cyanide is used and unloaded. These areas included both process areas: the Wet Mill and the Roaster.

Showers, low-pressure eye wash stations and non-acidic sodium bicarbonate fire extinguishers are located at strategic locations throughout the operation and are maintained, inspected and tested on a regular basis. Verification was through visual inspection of showers, low-pressure eye wash stations and inspection of fire extinguishers.
in areas where cyanide is used and review of a sample of inspection records. Showers inspection is recorded in the area inspection work order and the fire extinguishers monthly inspection is recorded separately.

Shower and eyewash stations are located at the unloading and process areas. The operators check these items every shift and weekly as part of the routine inspections of the cyanide areas. Additionally, the operator of the cyanide truck inspects them prior to the unloading operation. The auditors verified that the showers and eyewash stations are functional and that the pressure in the eyewash stations is adequate.

Fire extinguishers are inspected monthly (damage) and annually (empty, pressure test and fill) by Goldstrike personnel. The personnel responsible for conducting the annual inspection of the extinguishers have the license by the State of Nevada to perform this task. Auditors verified the presence and conditions of the fire extinguishers. Inspection records were reviewed to verify compliance.

The auditors followed the cyanide solution circuit from the cyanide unloading areas to the tailing storage facilities in both process areas. Pipes containing cyanide are marked as containing cyanide solution and flow direction. Cyanide storage and process tanks are marked as containing cyanide. Signage for confined spaces at the tank entry points has also been placed. Verification was by visual inspection.

First aid instructions for cyanide exposure are in each first aid kit located in areas where reagent grade cyanide is in use and Material Safety Data Sheets (MSDS) are in the cyanide storage tanks. Verification was through visual inspection of the first aid procedures and MSDS. The instructions are in English, the language of the workforce.

MSDS, first aid procedures and other information regarding cyanide safety are available through Barrick’s Goldstrike Intranet.

Goldstrike has and implements the procedure called “Accident Incident Reporting” to provide consistent reporting of all accidents or incidents. In addition, Goldstrike has the TapRooT tracking system allows a safety incident to be recorded, evaluated and followed through to remediation. No incidents involving the exposure of employees to cyanide have occurred since the previous Code Re-Certification Audit. Verification was by interview with safety personnel and review of the TapRooT system.

7.3. **STANDARD OF PRACTICE 6.3: DEVELOP AND IMPLEMENT EMERGENCY RESPONSE PLANS AND PROCEDURES TO RESPOND TO WORKER EXPOSURE TO CYANIDE.**

This operation is

- [x] in full compliance
- [ ] in substantial compliance Standard of Practice 6.3.
- [ ] not in compliance

Summarize the basis for this Finding/Deficiencies Identified.

There is cyanide antidote kit (amyl nitrite and oxygen) at the cyanide unloading areas and inside both the Wet Mill and the Roaster building. Automated External Defibrillators (AEDs) are distributed in various locations within the Wet Mill and the Roaster. Cyanide
antidotes are stored in locked refrigerators and are within expiration dates. Goldstrike has
two emergency response vehicles (ERVs, including fire truck, ambulance, and HAZMAT
trailer) that contain oxygen, lifepacks and AED.

Goldstrike inspects cyanide antidote kit weekly as part of its routine inspections of the
cyanide areas. In addition, the first aid kits are inspected monthly for presence of oxygen
bottle, oxygen mask, 1-way pocket valve mask, first aid instructions, case, refrigerator on,
refrigerator seal, amyl nitrite, gauze pad, signage and emergency contact information.
First aid equipment located in the
ERVs is inspected weekly by emergency response personnel.

Verification was by visual examination and interview with process and safety personnel.
The antidotes are stored at the manufacture’s recommended temperature and inside
refrigerators. Interviews with the Emergency Response Coordinator and examination of
inspection records determined that the cyanide first aid equipment is inspected as part of
the weekly operations inspection and monthly by emergency response personnel. First
aid equipment located in the ERVs is also inspected weekly by emergency response
personnel. The antidote is replaced as specified by the manufacture’s expiration date. All
first aid kits are inspected monthly for presence of oxygen bottle, oxygen mask, 1-way
pocket valve mask, first aid instructions, refrigerator seal, amyl nitrite, gauze pad, signage
and emergency contact information. The inspection records include a section for
comments and follow up corrective actions. A sample of the inspection records for 2010 to
2013 was reviewed. Additional verification was through visual examination of the
antidote kits expiration dates.

Goldstrike has developed written emergency response plans for cyanide exposures. These
plans include the Hazard Communication Employee Handbook (October 2002) that all
employees receive and are trained on related to cyanide exposure information. Goldstrike
has developed a Safe Job Procedure Sodium Cyanide (included in the on-line training
materials) and a Barrick Goldstrike Mine Emergency Response Plan (ERP) that address
identification and response procedures to cyanide exposures.

Goldstrike has a trained and equipped Emergency Response Team (ERT). Qualifications
range from Emergency Medical Technician (EMT), First Responder, Fire Fighting, Rescue
and HazMat certifications. Verification was through interviews, examination of training
records and visual inspection of the ERVs. There is cyanide antidote kit (amyl nitrite and
oxygen) at the cyanide unloading areas and inside both the Wet Mill and the Roaster
building. AEDs are distributed in various locations within the Wet Will and the Roaster.
The ERVs are fully equipped with oxygen, lifepacks and AED. Every shift has a First
Responder and EMT trained to administer amyl nitrite and oxygen.

In the event of a medical situation that requires additional medical attention other than
what can be provided on-site, Goldstrike will transport the patient by their ERV to
Northern Nevada Regional Hospital (NNRH). Alternatively, an air ambulance will
transport the patient and land at the Carlin canyon where the NNRH ambulance will
meet them; the landing coordinates are included in the CRERP. Goldstrike will transport
the cyanide antidote (amyl nitrite) with the patient and transfer both to the ambulance.
The ambulance will transport the patient and the antidote to NNRH. The NNRH
Emergency Department has cyanide antidote kit (amyl nitrite, sodium thiosulfate and
sodium nitrite) with information and instruction material, as stated by the Hospital

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Director of Emergency Services in a letter dated May 2012. Verification was through interview with safety personnel and review of the Cyanide Reference Emergency Response Plan (CRERP) (including ambulance services and NNRH telephone numbers).

Goldstrike has notified NNRH of the potential need to treat victims with cyanide exposure, and has determined the facility has adequate, qualified staff, equipment and expertise to be able to respond effectively. Auditors reviewed recent correspondence (May 2012) between Goldstrike and the Director of NNRH certifying that the hospital is prepared to handle cyanide exposure and that has cyanide antidote kit (amyl nitrite, sodium thiosulfate and sodium nitrite).

Goldstrike conducts quarterly mock emergency drills based on likely release/exposure scenarios to test the response procedure, and incorporates lessons learned from the drills into its response planning. Records of these drills are kept with the Emergency Response Coordinator. The Emergency Response Team (ERT) also participates in competitions.

General mock drills are performed quarterly, in general every other drill includes a NaCN scenario including liquid spill and exposed personnel. These scenarios include requesting external resources (e.g. the neighboring mining facility, the air ambulance, the NNRH Elko and Carlin fire departments.)

A debriefing is conducted at the end of the drills where the members of the ERT critique, evaluate and determine what went well and what went wrong with the drills. A report is prepared to document the results and lesson learned. Auditors reviewed mock drill reports and supporting documentation to verify compliance.
8. **EMERGENCY RESPONSE – PROTECT COMMUNITIES AND THE ENVIRONMENT THROUGH THE DEVELOPMENT OF EMERGENCY RESPONSE STRATEGIES AND CAPABILITIES.**

8.1. **STANDARD OF PRACTICE 7.1: PREPARE DETAILED EMERGENCY RESPONSE PLANS FOR POTENTIAL CYANIDE RELEASES.**

This operation is

- [x] in full compliance
- [ ] in substantial compliance  Standard of Practice 7.1.
- [ ] not in compliance

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike has developed several plans and manuals that address potential accidental releases of cyanide. The documents include: the Emergency Response Plan (ERP), the Cyanide “Reference” Emergency Response Plan (CRERP), Barrick Goldstrike Mine Environmental Division On Call Manual; Emergency Action Plan for North Block Tailings Impoundment; Operating Plans and SOPs for both process areas. Verification was by review of these documents.

The ERP, the CRERP and Safety Job Procedure for Sodium Cyanide and Safety Job Procedure for NaCN Unloading Access describe actions for an on-site release of HCN.

The ERP has a section for general chemical spills during onsite transportation. The ERP also includes a section on “off site emergency.” This section refers to the Cyanco Emergency Response Plan which is retained onsite.

Goldstrike’s SOP Cyanide Unloading Access specifies the procedure during unloading and the ERP and Environmental Incident Response Manual have a section on the emergency response procedures for liquid cyanide leaks or spills.

The Safe Job Procedure for Sodium Cyanide and the CRERP include procedures for cyanide related fire.

The Operating Plans for the Wet Mill and the Roaster include procedures for pipe, valves and tank ruptures. Pipes, valves and pipelines have secondary containment. Leakage from the tailings would be contained within the HDPE-lined secondary containment corridor. Immediate measures would be taken to halt the release by sealing the leak in a pipeline or tank, shutting down the pipeline, or by other appropriate measures. Any process solution would gravity drain to the containment pond.

Goldstrike has Emergency Action Plans for the North Block Tailings Impoundment (last updated in 2012). The plans include emergency detection, evaluation and classification; general responsibilities under the Plans; preparedness and notification and inundation maps. Condition 3 (Dam Emergency) in the Plan is when water has overtopped or will overtop the dam and uncontrolled erosion, settlement, or upheaval occurring on the downstream slope or at the toe of the dam. The Plan details required response for this condition. If the operator determines that there is a possibility that the pond could overtop, heavy equipment would be mobilized to construct an emergency containment basin and/or berms to contain the pond fluid. The NDEP would be notified. Process...
solutions contained in the emergency containment basin would be pumped back into the containment pond following the emergency.

The Operating Plans include actions for outages and pump failures. Goldstrike is equipped with back-up generators in the event of power interruption. Generators are started and inspected on a monthly basis. Standby pumps are available to maintain the balance of solutions going to and from the tailings impoundment.

The Emergency Action Plan for the North Block Tailings Impoundment includes response for uncontrolled seepage. The Operating Plans also include actions for this condition and describe the need of a cyanide analysis of collected fluids to determine the nature of the seepage.

Goldstrike has operating procedures for the cyanide destruction facilities; according to this procedures and the interviewed personnel, as long as one of the systems is operational, both facilities can pump to the tailings pond without creating a risk for the environment, the human health or compliance with the site permits or the cyanide code (WAD cyanide concentrations will remain below 50 mg/l). Blending of the two tailings streams will continue until the destruction circuit is back online. If both destruction systems are off-line, the process is stopped.

Goldstrike has an Emergency Action Plan for the North Block Tailings Impoundment (last in review August 2012). The plan includes emergency detection, evaluation and classification, general responsibilities under the Plans, preparedness and notification, and inundation maps. Condition 4 (Dam Breach) in the plans is defined as a dislocation or failure of a structure which allows for an expanding, uncontrollable discharge of water through the spillway or dam indicating a breach is occurring. The plans detail required response for this condition.

The cyanide supplier for Goldstrike is Cyanco. Cyanco contracts TransWood as the cyanide transporter. Both companies have been certified as fully compliant with the ICMC. TransWood uses the Cyanco Emergency Response Plan that addresses all the Code requirements for the transportation of cyanide. Liquid sodium cyanide (the only physical form transported), roadway infrastructure differences, and the roles of the different emergency responders are discussed in the Plan. The ERP has a section for general chemical spills during onsite transportation. The ERP also includes a section on “off site emergency.” This section refers to the Cyanco Emergency Response Plan which is retained onsite (latest review August 2012).
8.2. **STANDARD OF PRACTICE 7.2: INVOLVE SITE PERSONNEL AND STAKEHOLDERS IN THE PLANNING PROCESS.**

This operation is

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

Standard of Practice 7.2.

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike solicits the input of various stakeholders and its workforce in its emergency response planning process. Goldstrike has its own fire-fighting capabilities and HazMat cleanup. Goldstrike has held internal mock drills since the Initial Code Certification Audit. Some of the emergency drills have involved the participation of all Barrick ERT members (surface and underground), Access Air, Newmont ambulance and HazMat Team, NNRH, Carlin and Elko Fire Department, and a neighboring mining facility. Goldstrike also solicits the input of their workforce through weekly safety meetings and mock drills. The ERP is a controlled document and is reviewed following a cyanide related accident and annually according to Goldstrike Document Control Procedures. Additionally, Goldstrike is member of the Local Emergency Planning Committee; a representative from Goldstrike participates in the committee sessions and maintains copies of the minutes. Goldstrike has shared its ERP with the other members of the committee. The Committee includes representatives from the Elko County Sheriff's Department, Newmont Mining, Elko School District, Red Cross, Elko Fire department, among many others.

The nearest community to the site is the town of Carlin, located 27 miles southeast of the mine. There are no identified risks of onsite release scenarios that would affect Carlin. However, Goldstrike does provide the opportunity to communicate issues of concern with the public through quarterly community communication sessions, and public communications meetings where members of the general public are provided with information on the use of cyanide.

Goldstrike is a member of the Local Emergency Planning Committee (LEPC); a representative from Goldstrike participates in the committee sessions and maintains copies of the minutes. As previously noted, the committee includes representatives from the American Red Cross, Elko’s Fire Department, Sheriff and Ambulance.

Verification was through interview with safety personal and review of SOPs and mock drill reports and communications with the NNRH and LEPC to verify compliance.

The ERP does not designate any responsibilities to off-site responders and communities with the exception of ambulance and hospital facilities. These groups are involved in mock drills and are consulted with related to roles and responsibilities. Goldstrike communicates with its workforce to keep the ERP current. Auditors reviewed minutes from different weekly safety meetings that described cyanide safety procedures and mock drill reports.
8.3. **STANDARD OF PRACTICE 7.3: DESIGNATE APPROPRIATE PERSONNEL AND COMMIT NECESSARY EQUIPMENT AND RESOURCES FOR EMERGENCY RESPONSE.**

This operation is

- [✓] in full compliance
- [ ] in substantial compliance
- [ ] not in compliance

**Standard of Practice 7.3.**

Summarize the basis for this Finding/Deficiencies Identified.

The emergency response systems in place at Goldstrike designate Incident Commanders and establishment of Incident Command Center (ICC). The Incident Commander has the authority to commit the necessary resources. The ERP defines the primary and alternative response coordinators for an ERT. The ERT is commanded by the Captain and a Supervisor, or Incident Commander. The ERT is responsible for the overall management of the emergency situation (human resources, equipment, material and supplies, communication, production and decisions at the site. The ERT, should it be necessary, will have external Corporate support divisions.

Verification by interview with the Emergency Response Coordinator and review of the ERP.

Goldstrike has an updated list of its ERTs (first aid, firefighting and HazMat). The listing is based on four crews (A, B, C, and D) and is broken out by Department. Verification by interview with the Emergency Response Coordinator and review of the list.

The ERT training includes HazMat, Fire Fighting, Medical Care and High Angle Rope Rescue. Each of the four crews has several EMTs and all have had First Responder and Emergency Response training. Training includes details for providing first aid for cyanide exposure, to administer amyl nitrite, locations of cyanide antidote kits, medical oxygen, hazard awareness associated with sodium cyanide and HCN, decontamination and spill procedures, and the use of the emergency response equipment.

Verification by interview with the Emergency Response Coordinator and review of the document called “Requirements of Emergency Response Team Members,” the ERT training schedule and training records.

The ERP includes emergency radio channel, office and telephone numbers for the “Emergency Chain of Command.” In addition, Goldstrike has a list with the name of the Emergency Response Coordinators and ERT, including their 24 hour contact information (cell and home phone numbers) included in the CRERP.

The ERP defines the primary and alternative Emergency Response Coordinators. The ERT is commanded by the Supervisor or Incident Commander. The Incident Commander is responsible for the overall management of the emergency situation for the human
resources, equipment, material and supplies, communication, production and decisions at the site.

Goldstrike has a list of its emergency response equipment, including Medical, Fire/Confined Space/Rope Rescue/Decontamination and HazMat equipment. Goldstrike has also a list of the emergency response equipment located in its two ERVs.

All emergency equipment and supplies are inspected on a regular basis. Inspection records of the ERV contents, extinguishers, first aid and antidote kits, and spill and decontamination equipment were reviewed.

The ERP and the CRERP provide detailed contact information and describes the anticipated roles of the hospital and ambulance, if needed.

Goldstrike does not use off-site responders for onsite emergencies other than ambulance service and local hospital facilities, unless they are needed. These groups are involved in mock drills and are consulted with related to roles and responsibilities. Goldstrike has made formalized arrangements with NNRH to treat victims with cyanide exposure and has determined the facility has adequate, qualified staff, equipment and expertise to be able to respond effectively. However, The ERP and the CRERP have identified additional external resources (e.g. neighboring mining facility) that can be contacted in case additional resources are required.

8.4.  

**STANDARD OF PRACTICE 7.4: DEVELOP PROCEDURES FOR INTERNAL AND EXTERNAL EMERGENCY NOTIFICATION AND REPORTING.**

This operation is

- [ ] in full compliance
- [ ] in substantial compliance Standard of Practice 7.4.
- [ ] not in compliance

Summarize the basis for this Finding/Deficiencies Identified.

The ERP includes procedures and contact information for notifying management, governmental agencies, ambulance services, NNRH, medical clinics, poison control center, Nevada Division of Safety, Health and Training, Fire Services, Law Enforcement, Nevada Highway Patrol, Federal Bureau of Investigation, MSHA and Chemical Spill Clean-up Services. Verification was by interview with safety personnel and the Emergency Response Coordinator and review of the ERP.

There are no communities that could be impacted by a cyanide related incident from Goldstrike. The Operating Plans for the Wet Mill and the Roaster state that pursuant to the regulation promulgated implementing the Community Right to Know Act of 1986 (40 CFR Part 355), releases of reportable quantities of hazardous substances beyond the facility boundary, that may potentially result in exposure to individuals outside the facility boundary must be reported to the State Emergency Response Commission and LEPC. Goldstrike’s Process Manager in consultation with the Environmental Manger will determine if there has been a release of a reportable quantity of cyanide beyond the facility boundary and make the required notification.

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8.5. **STANDARD OF PRACTICE 7.5: INCORPORATE INTO RESPONSE PLANS AND REMEDIATION MEASURES MONITORING ELEMENTS THAT ACCOUNT FOR THE ADDITIONAL HAZARDS OF USING CYANIDE TREATMENT CHEMICALS.**

This operation is

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

Standard of Practice 7.5.

Summarize the basis for this Finding/Deficiencies Identified.

Liquids that fall in secondary containment would be pumped back to tanks, process units or the tailing pond. According to the ERP and the Environmental Division On–Call Manual, temporary dams would be constructed to contain liquids that would fall out of secondary containment: wetted and cyanide contaminated soils would be completely excavated and removed to the mill feed circuit or tailing facilities.

All wetted and cyanide contaminated soils would be completely excavated and removed to the mill feed circuit or tailing facilities. Soils samples would be taken following cleanup to confirm complete removal of all cyanide contaminated materials. The clean-up level is below detection.

Spill clean-up materials are to be disposed of in the tailings facilities.

Goldstrike uses bottled water for drinking water supply. None of the catastrophic scenarios (e.g. failure of the tailing dam) would reach water sources used for public supply. Verification by interview with environmental personnel.

Goldstrike does not consider the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide that has been released into surface waters. Verification by interview with environmental personnel.

Necessary monitoring activities will be conducted in the event of a cyanide release based on Goldstrike’s Water Pollution Control Permits (NEV 91029 and NEV 90060) requirements and in coordination with the appropriate NDEP Bureau of Mining Regulation representative. Goldstrike has a Sampling and Analysis Plan that includes SOP for Water and Solids Sampling and samples collection. Samples would be collected according to the guidelines established by the On-Call Manual. Verification by interview with environmental personnel and review of the Operating Plans and the Environmental Division On-Call Manual.
8.6. **STANDARD OF PRACTICE 7.6:** **INCORPORATE INTO RESPONSE PLANS AND REMEDIATION MEASURES MONITORING ELEMENTS THAT ACCOUNT FOR THE ADDITIONAL HAZARDS OF USING CYANIDE TREATMENT CHEMICALS.**

This operation is

√ in full compliance
□ in substantial compliance Standard of Practice 7.6.
□ not in compliance

Summarize the basis for this Finding/Deficiencies Identified.

The ERP is reviewed once every year by management personnel and revised following mock drills and actual incidents as needed. The auditor verified that the ERP, Tailing Dam Emergency Response Plan and other emergency related plans (Environmental Division On-Call Manual) have been revised.

Goldstrike conducts quarterly mock emergency drills based on likely release/exposure scenarios to test the response procedure, and incorporates lessons learned from the drills into its response planning. Records of these drills are kept with the Emergency Response Coordinator. The Emergency Response Team (ERT) also participates in competitions.

General mock drills are performed quarterly, in general every other drill includes a NaCN scenarios including liquid spill and exposed personnel. The scenarios include requesting external resources (e.g. the neighboring mining facility, the air ambulance, the NNRH Elko and Carlin fire departments).

A debriefing is done at the end of the drill where the members of the ERT critique the drills and determined what went well and what went wrong. A report is prepared to document the results and lessons learned.

Auditors reviewed mock drills reports and supporting documentation to verify compliance.
9. **TRAINING – TRAIN WORKERS AND EMERGENCY RESPONSE TO MANAGE CYANIDE IN A SAFE AND ENVIRONMENTALLY PROTECTIVE MANNER.**

9.1. **STANDARD OF PRACTICE 8.1: TRAIN WORKERS TO UNDERSTAND THE HAZARDS ASSOCIATED WITH CYANIDE USE.**

This operation is

- [✓] in full compliance
- [ ] in substantial compliance
- [ ] not in compliance

Summarize the basis for this Finding/Deficiencies Identified.

All new employees, employees transferred from other Barrick mines and contractors are required to complete new hire training which includes cyanide hazard recognition training. Hazard recognition training includes cyanide potential health effects, routes of entry, symptoms, handling and storage, PPE, unloading procedures, first aid measures, spill response and emergency equipment locations. In addition to the general training, all employees working in process areas need to complete a “Process New Hire Training.” This training includes the Safe Job Procedure for Sodium Cyanide, safety inspections, fire extinguishers, safety showers and eyewash stations, confined space entry, multi gas detectors, HazMat Communication (HazCom) and others.

Goldstrike requires all employees to have annual refresher training that includes cyanide training. Cyanide refresher training includes: physical and chemical properties, effect of pH on HCN/NaCN ratio, safe handling and storage, HCN exposure limits, routes of exposure, cyanide poisoning first aid, spill response, use of the emergency response equipment, emergency communication procedures, audible and visual alarms and MSDS.

In addition, safety meetings in the process areas are regularly conducted throughout the year and address changes in cyanide management SOPs and policies.

Verification was by interview with training, process and emergency response personnel and review of training records and specific cyanide safety classes.

Goldstrike retains employee training records. Auditor verified that records are retained by reviewing a number of employee files (e.g., an employee recently transferred to the CIL control room in the Roster Area, an experienced Roster operator, and two operators and a supervisor from the Wet Mill CIL area). Files include cyanide related training records and test results demonstrating an understanding of the training.
9.2. **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.**

This operation is

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

Standard of Practice 8.2.

Summarize the basis for this Finding/Deficiencies Identified.

All personnel in job positions that involve the use of cyanide and cyanide management (including unloading, production and maintenance) receive training on how to perform their assigned tasks with minimum risk to worker health and safety. Task specific training includes CIL Circuit training and work area familiarization. Task specific training covers critical tasks associated with the circuit, SOPs, tour of process circuits and chemical hazards in process areas. The cyanide-related training elements necessary for each job are located on Goldstrike intranet. A pre-requisite for the task specific training is to complete the “Process New Hire Training.” In addition to the job specific training, there is Hazard Training and Chemical Safety that also include cyanide management and first aid.

Training requirements are identified in the Operator Competency Checklist (different for every process circuit). The Checklist includes:

- **Pre-requirements:** This includes the modules of a computer based training (provides the basis and theoretical elements of the different process in the circuit) and the hands-on training on the different equipment units. The computer based training includes a test. The hands-on equipment training is provided by a skilled operator; the date of completion and the trainer on each equipment unit is recorded.
- **Classroom training:** (e.g. hazard recognition and abatement, alarms, etc.)
- **SOP:** list off relevant SOPs that must mastered by the operator. This is a on the job training provided by experienced operators or by the process supervisor; the date of completion and the trainer on each SOP is recorded.
- **Critical Task and SOP Proficiency:** This is an interview where the employee must demonstrate knowledge on the critical task and ability to locate SOP on the circuit system.
- **Then a Competency test is completed by the supervisor through a walkthrough and a series of questions related to the process, equipment and controls. If satisfactory, the supervisor signs the checklist and the operator is now allowed to work independently.**

Goldstrike requires and provides annual refresher for cyanide management to assure that employees continue to perform their jobs in a safe and environmentally protective manner. Refresher training records were reviewed to verify compliance. Eight hour refresher training is provided in operational safety and cyanide elements. In addition the SOP, cyanide elements and operational safety are reviewed on a frequent basis during the safety meetings.

Goldstrike requires written tests to evaluate the effectiveness of cyanide training. An employee is also evaluated on an oral quiz and their job performance (proficiency test).
Records are retained of written quizzes and the employees understanding of cyanide and the relevant SOP. Verification by interview with process personnel.

Training records are retained throughout an individual's employment documenting the training they receive. The records include the names of the employee and the trainer, the date of training; the topics covered, and test results demonstrating an understanding of the training materials.

Verification by interview with training and process personnel and review of training records. Auditors reviewed cyanide and SOP training records for five employees.

9.3.

**STANDARD OF PRACTICE 8.3: TRAIN APPROPRIATE WORKERS AND PERSONNEL TO RESPOND TO WORKER EXPOSURES AND ENVIRONMENTAL RELEASES OF CYANIDE.**

This operation is

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

Standard of Practice 8.3.

Summarize the basis for this Finding/Deficiencies Identified.

Personnel responsible for unloading, production, and maintenance are trained in decontamination and first aid procedures for cyanide release incidents. They are able to participate in Level 1 responses (small incidents). Larger incidents (level 2 and 3) are attended by the Emergency Response Team.

Employees working with cyanide are trained in cyanide physical and chemical properties, effect of pH on HCN/NaCN ratio, safe handling and storage, HCN exposure limits, routes of exposure, cyanide poisoning first aid, spill response, use of the emergency response equipment, emergency communication procedures, audible and visual alarms and MSDS.

Auditors reviewed training records and conducted random interviews to CIL operators (five in total) to verify their level of training and understanding of symptoms of cyanide exposure, first aid procedures and location of emergency equipment (i.e., amyl nitrite and oxygen).

Emergency and first responders (including unloading, production and maintenance workers) are trained in decontamination and first aid procedures for cyanide releases. In addition, responders are familiarized with the procedures included in the ERP. The ERP contains a section on “Cyanide Specific Information in the Event of a Chemical Spill.” The section details cyanide poisoning symptoms (early and serious later stages), PPE, rescue procedures (including decontamination procedures) and first aid procedures. Verification was through interview with the Emergency Response Coordinator and review of training records for responders.

The Emergency Response Coordinators are MSHA, HazCom and First Responder trained. All ERT members are trained on EMT, First Responder, Fire Fighting, Rescue and HazMat. Some of the responders are also MSHA and CPR instructors. The ERP has a section on emergency notification and response.

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Emergency Records of the ERT training sessions from 2010 to 2013 were reviewed to verify compliance. The ERT training program for 2013 was also available for review; it included four sessions per topic to ensure that all members of the ERT receive the refresher training. New members of the ERT receive the initial 40 hour training on each topic, copies of the certifications are held in the employee’s record and in the Emergency Response Coordinator files.

Verification by interview with the Emergency Response Coordinator, review of the ERP and training records and interviews with emergency responders.

Goldstrike has on-site emergency responders (firefighting, HazMat, EMT and first response). Goldstrike does not use off-site responders for onsite emergencies other than air ambulance service and the NNRH unless needed, such as additional emergency transport provided by Newmont. These groups are involved in mock drills and are informed regarding their roles and responsibilities. Goldstrike has made formalized arrangements with the NNRH.

Auditors reviewed correspondence (May 2012) between Goldstrike and the Director of NNRH certifying that the hospital is prepared to handle cyanide exposure and has a cyanide poisoning kit.

Goldstrike requires and provides annual refresher for cyanide management. Cyanide refresher training includes: physical and chemical properties, effect of pH on HCN/NaCN ratio, safe handling and storage, HCN exposure limits, routes of exposure, cyanide poisoning first aid, spill response, use of the emergency response equipment, emergency communication procedures, audible and visual alarms and MSDS. Employees working with cyanide receive annual refresher on cyanide in the MSHA and HazCom training. Refresher training records are retained in the employees file.

In addition, Goldstrike discusses cyanide-related health and safety issues as well as changes in cyanide management SOPs, if any, at safety meetings. Refresher training records and safety meeting records (where cyanide related topics or SOPs were discussed) were reviewed by auditors.

General mock drills are preformed quarterly. Generally every other drill includes a NaCN scenario including liquid spill and exposed personnel. These scenarios include notifying external resources (e.g. the neighboring mining facility, the air ambulance, the NNRH Elko and Carlin fire departments.)

A debriefing is done at the end of drills where the members of the ERT critique the drills and determined what went well and what went wrong. A report is prepared to document the results and lesson learned; the report also reviews the gaps identified in the previous drill and how they were improved.

Training records are retained throughout an individual's employment documenting the cyanide training they receive. The records include the names of the employee and the trainer, the date of training; the topics covered, and test results demonstrating an understanding of the training materials.

Verification was by interviews with training and emergency response personnel and review of training records

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10. DIALOGUE – ENGAGE IN PUBLIC CONSULTATION AND DISCLOSURE.

10.1. **STANDARD OF PRACTICE 9.1: PROVIDE STAKEHOLDERS THE OPPORTUNITY TO COMMUNICATE ISSUES OF CONCERN.**

This operation is

- ✓ in full compliance
- □ in substantial compliance
- □ not in compliance

**Standard of Practice 9.1.**

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike has provided many avenues of opportunity for stakeholders to communicate issues of concerns regarding cyanide use and management at the mine site. Goldstrike sponsors and conducts quarterly community communication sessions where the members of the general public and government leaders are encouraged to attend and discuss issues related to the mining operation including the use of cyanide. Barrick’s Regional President regularly meets with the Western Shoshone Communities that includes the Elko Band Counsel.

Goldstrike, through Barrick’s corporate website provides information on the use of cyanide and has provisions for stakeholders to communicate issues of concern (http://www.Barrick.com). The site is provided with a “Contact Us” tab that allows an individual to contact the company via email and telephone. In 2012, Barrick began implementation of its Community Relations Management System (CRMS) at all its mines worldwide. The CRMS sets minimum performance requirements to ensure adequate community relation activities. Grievance mechanisms were a top priority to provide local stakeholders with an accessible, transparent mechanism to voice concerns. Goldstrike instituted a public grievance system in 2012 that includes a phone number that is listed on its environmental related newsletters and meeting notices (1-775-748-1200 or 1-800-719-0400). Documentation was reviewed where grievances were noted and responded to.

Goldstrike offers tours upon request and approval. Tours of Goldstrike facilities include areas of cyanide use-the Mill and Roaster. Documentation of tour schedules were reviewed from 2010-2013. Recent tours included representatives of the Nevada Mining Association, members of the Nevada Public Lands Committee, members of the Nevada Water Resources Association, local schools and Mining Technological Associations and Universities, Senator Elizabeth Halzbeth in 2011 and others.

Verification by interview with Goldstrike’s environmental staff and review of supporting documentation.

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10.2. **STANDARD OF PRACTICE 9.2:** **INITIATE DIALOGUE DESCRIBING CYANIDE MANAGEMENT PROCEDURES AND RESPONSIVELY ADDRESS IDENTIFIED CONCERNS.**

This operation is

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

Standard of Practice 9.2.

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike sponsors and conducts quarterly community communication sessions where the members of the general public and government leaders are encouraged to attend and discuss issues related to the mining operation including the use of cyanide. Barrick’s Regional President regularly meets with the Western Shoshone Communities that includes the Elko Band Counsel.

Goldstrike also interacts with regulators during the Annual Water Pollution Control Compliance Inspections conducted by the NDEP Bureau of Mining Regulation and Reclamation. Inspections include process areas. Reports on the 2010, 2011 and 2012 compliance inspections were reviewed. Goldstrike updated its Water Pollution Control permit in 2010 to include a paste operation for public feedback and comment.

Goldstrike offers tours upon request and approval as stated in 9.1 above. Tours of Goldstrike facilities include the cyanide circuit and process areas. Goldstrike is a member of the Local Emergency Preparedness Committee (LEPC) that meets quarterly with community stakeholders to address and review emergency response and medical procedures.

Barrick’s corporate website has a link titled “Barrick and Cyanide Management” that provides information on cyanide use and management practices at the mine. The link includes a phone number to contact Barrick Gold of North America for further information on cyanide management practices. There are also other cyanide related papers and resources that can be found in the search function of the site.

Verification was done by interview with Goldstrike’s environmental staff and review of Barrick’s corporate website and records of community meetings, internal/external newsletters, regulator inspections and tours of Goldstrike facilities.
10.3. **STANDARD OF PRACTICE 9.3:** MAKE APPROPRIATE OPERATIONAL AND ENVIRONMENTAL INFORMATION REGARDING CYANIDE AVAILABLE TO STAKEHOLDERS.

This operation is

- [✓] in full compliance
- [ ] in substantial compliance
- [ ] not in compliance

Standard of Practice 9.3.

Summarize the basis for this Finding/Deficiencies Identified.

Goldstrike has developed written descriptions of how their activities are conducted and how cyanide is managed, and made these descriptions available to communities and stakeholders. Verification was by interview with Goldstrike’s environmental staff and review of written descriptions on cyanide management including magazine articles, papers and participation in the February 2012 ICMI Conference in Elko, Nevada, technical reports and participation in the May 2012 Montana Mining Association meeting, submittals to regulatory agencies and others.

Barrick’s corporate website has a link titled “Barrick and Cyanide Management” that provides information on cyanide use and management practices at the mine. The 2011 Barrick Responsibility Report is also available on their website and describes Barrick’s cyanide code compliance effort (http://www.barrick.com/GlobalOperations/NorthAmerica/GoldstrikeProperty/default.aspx). A copy of the 2012 Barrick Gold Corporation Annual Report was also reviewed.

Barrick also publishes articles in local magazines to inform the public about its environmental practices. Auditors reviewed sample articles written by Barrick staff from Elko Daily Press for the years of 2010 to 2013. Reviewed copies of E-Notes that are monthly written and electronic fact sheets for Barrick employees that cover topics in health and safety and other topics related to their mining operations in Nevada.

Goldstrike provided written descriptions of how their activities are conducted and how cyanide is managed in submittals to regulatory agencies. Auditors reviewed Goldstrike’s Water Pollution Control Permit NEV0091029 (2010 Update) which included the Operating Plans for both process areas, including the description and management of the cyanide circuit and inclusion of the paste backfill operations.

Nearly 79 percent and 77 percent of the people in Elko and Eureka Counties, NV have a high school education indicating that a high percentage of the population is literate (US Census Bureau, State & County QuickFacts, http://quickfacts.census.gov/qfd/states/32/32011.html). Goldstrike disseminates information of cyanide in verbal form during the quarterly community communication sessions with the Western Shoshone Communities and through attendance and presentation of technical papers at conferences and various State Mining Association meetings. Any questions during site tours are freely answered.

Goldstrike’s Water Pollution Control Permits require the company to file quarterly reports to the NDEP that includes a summary of cyanide spills and releases. The Water Pollution Control Permit 2010 Update anticipated environmental advantages of paste backfill to: reduce surface disturbances and human contact, reduce air emission of air
pollutants and a 25% reduction in the volume of tailings requiring surface disposal. These reports are available to the public. In addition, releases of reportable quantities of hazardous substances beyond the facility boundary that may potentially result in exposure to individuals outside the facility boundary must be reported to the State Emergency Response Commission and LEPC. Goldstrike is required to complete MSHA reports that would include any cyanide related worker exposure or death.

Operational and environmental information is provided in Goldstrike’s NDEP reports and MSHA and would include:

a. Incidents of cyanide exposure resulting in hospitalization (MSHA);
b. Incidents where releases off the mine site required response or remediation (NDEP);
c. Incidents where releases on or off the mine site results in significant adverse effects to health and to the environment (NDEP; MSHA);
d. Incidents where a release on or of mine site required reporting under applicable regulations, (NDEP); and
e. Incidents where releases that caused exceedances of applicable limit for cyanide (NDEP).

Barrick, in conjunction with Newmont, maintains and operates a medical clinic in Elko, Nevada.

Verification was by interviews with Goldstrike environmental personnel and review of quarterly reports to NDEP Bureau of Mining Regulation and Reclamation.