SUMMARY AUDIT REPORT
for the April 2010
International Cyanide Management Code Recertification Audit

Prepared for:
Round Mountain Gold Corporation
Round Mountain, Nevada
(a Kinross Gold USA, Inc. /Barrick Gold Corporation joint venture)

Submitted to:
International Cyanide Management Institute
1200 “G” Street NW, Suite 800
Washington, D.C. 20005

31 August 2010

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SUMMERY AUDIT REPORT

Name of Mine: Round Mountain Mine

Name of Mine Owner: Kinross Gold USA, Inc. /Barrick Gold Corporation (a 50/50% joint venture)

Name of Mine Operator: Round Mountain Gold Corporation

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Location detail and description of operation:

The Round Mountain mine is a large, conventional open pit, heap leach and milling operation located in Nye County, Nevada, USA. As shown in Figure 1, the mine is located on the eastern side of the Big Smoky Valley, near the town of Round Mountain. The subdivision of Hadley is located approximately two miles to the southwest, and may contain up to 1,200 residents, depending on the mine’s current employment. The mine operates under a Mining Plan of Operations on lands managed by the US Bureau of Land Management (BLM) and US Forest Service (USFS), as well as on private land owned by Round Mountain Gold Corporation (RMGC). Several small cattle ranches are located to both the north and south of the Round Mountain operation.

Mining has occurred in the Round Mountain District since 1906, and ownership of the property has changed many times. The current ownership is a 50/50% joint venture between wholly-owned subsidiaries of Kinross Gold USA, Inc. (Kinross) and Barrick Gold Corporation. Kinross executes the operational responsibilities granted to it by the joint venture partnership agreement via the RMGC subsidiary. As of the date of this audit, the mine employed approximately 660 people.

The mine is located in an arid climate, and has an average annual precipitation of approximately 6.5 inches. There are no perennial surface water bodies; water flows are restricted to rare large storm events or rapid snowmelt conditions. Groundwater under the mine site ranges from 180 to 425 feet below ground surface.
The Round Mountain deposit contains diverse ore grades and mineralogical ore types which dictate the applicability of extraction processes.

Higher grade sulfide ore is processed by a mill using gravity, froth flotation, and cyanide leach circuit unit processes. A gross gold concentrate is produced by the gravity circuit with the gravity tails being processed by froth flotation. The flotation concentrate is then combined with the coarse gold processing circuit tails and then treated in a carbon-in-leach (CIL) cyanide circuit. About 96-97% of total mill feed exits as gravity/flotation circuit tailings with the remaining 3-4% exiting as leach circuit tailings. Both tailings streams are combined before exiting the mill.

Higher grade oxide ores are crushed and cyanide leached on a reusable heap leach pad. Lower grade oxide ores are hauled directly from the mine and placed on two large (West and South) dedicated cyanide heap leach pads.

Gold and silver extracted through all these methods is ultimately refined as doré bullion.

The mill leaching process includes an INCO© detoxification step that reduces Weak Acid Dissociable (WAD) cyanide concentration to less than 10 ppm in the mill tailings, which are further diluted by combination with the gravity (non-cyanide) process tailings stream. The combined tailings stream is directed to a large, HDPE-lined tailings management facility with an embankment design that incorporates a seepage collection and return system. WAD cyanide values as measured in the deposited tailings are typically 2 to 3 ppm or less.

In the three years since the mine was first certified to the International Cyanide Management Code (ICMC), major changes in cyanide operations have included the expansion of the West dedicated leach pad; construction of a raise to the tailings management facility; re-sizing/reconstruction of the reusable leach pads; and installation, testing, and operation of a leak detection system for the process solution pipeline between
the ADR and reusable pads. At the time of this audit, a final Environmental Impact Statement (EIS) had just been submitted for an expansion project involving the development of a new pit, leach pad, and infrastructure to the north of the current mine, as well as expansion and deepening of the existing pit. An expanded Comprehensive Reclamation Plan including the areas of proposed expansion has also been submitted as a condition of RMGC’s reclamation permit. If the expansion is approved and market conditions continue to support development, mining and ore processing may be extended through 2024.
SUMMARY AUDIT REPORT

Auditors’ Finding

The operation is: ■ in full compliance
        □ in substantial compliance
        □ not in compliance

with the International Cyanide Management Code.

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Audit Team Leader: John Lambert  e-mail: jlambert@geoengineers.com

Names and Signatures of other Auditors

Mark Montoya

Glenn Mills

Date(s) of Audit: April 26 through April 30, 2010

I attest that I meet the criteria for knowledge, experience and conflict of interest for ICMC 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 ICMC 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 ICMC Verification Protocol for Gold Mine Operations and using standard and accepted practices for health, safety and environmental audits.
SUMMARY AUDIT REPORT

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

Standard of Practice

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

The operation is: ■ in full compliance
□ in substantial compliance
□ not in compliance…with Standard of Practice 1.1

Discuss the basis for this Finding/Deficiencies Identified:

RMGC continues to purchase liquid sodium cyanide from CYANCO, Winnemucca, NV, under a contract (signed by RMGC on December 20, 2006) that resulted from the draft sales contract examined during the original certification audit. The term of the current contract extends until December 31, 2011; it explicitly requires both parties to achieve and maintain compliance with ICMC requirements. CYANCO was originally certified to the ICMC in 2006, and was recertified on November 6, 2009.

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

Standards of Practice

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

The operation is: ■ in full compliance
□ in substantial compliance
□ not in compliance…with Standard of Practice 2.1.

Discuss the basis for the Finding/Deficiencies Identified:

Round Mountain Mine
Name of Mine

Signature of Lead Auditor

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The cyanide producer (CYANCO) and transporter (TransWood, Inc.) have not changed since the December 2006 audit. CYANCO produces and stores cyanide at its ICMC-certified Winnemucca facility pending transfer to RMGC and other mining customers. No international shipments are made, and US Department of Transportation (DOT) regulations apply to all packaging and shipments. CYANCO owns the trailers, which are transported by TransWood under contract to CYANCO. All trailers are designed to meet or exceed DOT standards, and are identical to the trailer designs observed in the December 2006 audit. All labeling is in English. Evaluation and selection of routes, including community involvement is a CYANCO requirement that applies specifically to CYANCO and TransWood, both of whom were recently re-certified to the ICMC. No port facilities are used as shipments are within the United States and no interim facilities are used as cyanide is loaded by TransWood directly from CYANCO’s production storage facilities, transported, and offloaded at one of several solution storage tanks placed within the boundaries of RMGC’s operations.

CYANCO is responsible for remotely monitoring cyanide usage at each of RMGC’s storage tanks, and stages deliveries to ensure a continuous supply to the leach pads; South Dedicated Plant; the Adsorption, Desorption, and Recovery (ADR) plant; and Mill operations. There has been no change to the unloading protocols noted in the December 2006 audit, and the same contract requirements are still in force. CYANCO is responsible for delivering cyanide via TransWood’s transportation services, free on board (FOB) the offloading coupling at RMGC’s solution storage tanks. CYANCO trains the TransWood drivers to CYANCO-prepared transfer procedures. RMGC takes ownership of the cyanide at the point of transfer. Trailers are weighed on entry and departure, with weights noted on signed bills of lading/chain of custody records.

RMGC is not contractually responsible for emergency response actions until ownership is assumed (at the point of transfer at the mine site), but closely monitors any issues involving transportation of cyanide destined for RMGC and is capable of rendering assistance at any point along the transportation route. The sales agreement between RMGC and CYANCO specifically extends designated responsibilities and requirements and specifically prohibits changes in subcontractors without RMGC approval.

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

The operation is: ■ in full compliance   □ in substantial compliance   □ not in compliance…with Standard of Practice 2.2.

Discuss the basis for the Finding/Deficiencies Identified:

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There has been no change to the contractual arrangements between RMGC, CYANCO, and TransWood since December 2006 audit. CYANCO and TransWood are both required by contract to maintain ICMC certification, and as previously noted, both are currently certified to the ICMC. TransWood was originally certified to the ICMC prior to the December 2006 audit, and was re-certified to the ICMC in January 2010; see http://www.cyanidecode.org/signatory_transporter_transwood.php.

There has been no change in chain of custody practices since the December 2006 audit. RMGC personnel sign and receive copies of a bill of lading that documents custody from the point that a trailer is filled at CYANCO’s Winnemucca facility, date/time of arrival and weighing at RMGC, offloading at the specified storage tank, reweighing, and date/time of departure from RMGC property.

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

Standards of Practice

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

The operation is: ■ in full compliance
☐ in substantial compliance
☐ not in compliance…with Standard of Practice 3.1.

Discuss the basis for this Finding/Deficiencies Identified:

Facilities for storage of cyanide solution have not changed significantly since the December 2006 audit. Cyanide unloading and storage facilities are located at: the Phase II/III and Phase IV/V feed stations for the West Dedicated Pad; the ADR plant; the Mill, and the South Dedicated Plant (which feeds the South Dedicated Pad). Cyanide is received only in liquid form. All cyanide is offloaded to storage tanks with secondary containment arrangements designed to prevent seepage to the subsurface. The Mill and ADR tanks are placed within bermed concrete impoundments. The tanks located at the leach pad feeder ponds are placed on HDPE pads that are sloped to drain into the adjacent solution pond; the tank at the South Dedicated Plant is placed on a bermed concrete pad that is sloped to drain to the floor of the Plant, which itself is sloped to drain to the HDPE-lined (pregnant and lean) solution ponds. It was noted that new half-pipe berms had been installed across the entrance and exit to the Mill offloading pad in order to provide additional containment capability. Fill volumes for each offloading site are
calculated to prevent overfill. Level indicators for each storage tank are also monitored remotely by RMGC operators; control systems include both audible and visual high-level alarms.

All solution storage tanks except for the tank at the Mill were originally provided by CYANCO, and built to CYANCO’s specifications. The Mill tank was designed by Fluor, Daniel, Wright, Ltd., and built by the Selway Corporation. All of these facilities were subject to an independent evaluation by a professional engineer with Knight-Piésold prior to the 2006 audit and determined to be adequate.

All storage tanks are located in the open air and are well within the fenced security perimeter of the mine property. Cyanide tanks are distant from warehouses or other chemical storage areas and/or are physically separated from other process chemical tanks by concrete barriers and separate concrete impoundments. As noted in 2006, there are no perennial surface water features at or adjacent to the mine, and the security perimeters of all cyanide facilities are well distant from any dwellings. The Hadley subdivision is over two miles distant. There are a small number of households in the town of Round Mountain, which is over 1.5 miles to the northeast of the ADR, Mill, and the northern end of the West Dedicated Leach Pad. The Phase II/III and Phase IV/V feed stations are not regular work areas, and are visited by members of the workforce only during tank filling, maintenance, and inspection actions; the ADR plant, Mill, and South Dedicated Plant are all frequented work areas.

To minimize the potential for releases and human (i.e., workforce) exposure related to the condition of the storage tanks, all tanks are visually inspected for corrosion and leaks on a monthly basis. Until 2007, when ownership reverted to RMGC, all the tanks except for the Mill tank were owned by CYANCO. CYANCO repair crews were therefore typically contracted to perform all repairs to the storage tanks in response to specific inspection pickups. Although tank repairs were periodically being undertaken, no periodic routine preventive maintenance (PM) requirements had been established for the storage tanks. One round of ultrasonic testing (UT) readings had been undertaken by RMGC for each tank in November 2009 for informational purposes. Although it appeared that UT testing may have been performed in conjunction with various weld repairs, a routine UT tank shell thickness testing process and schedule had not been incorporated into any PM instruction. RMGC representatives were requested to develop an appropriate PM schedule for all solution storage tanks based on the guidance provided by CYANCO or other appropriate sources. Improved guidance for conducting ultrasonic inspections of tank thickness as well as visual inspections was developed in conjunction with a modified schedule applicable to all solution storage tanks; satisfactory objective evidence of these changes was provided prior to the submittal date of this report. See also Section 4.1.
3.2 Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

The operation is: ■ in full compliance  
☐ in substantial compliance  
☐ not in compliance…with Standard of Practice 3.2.

Discuss the basis for this Finding/Deficiencies Identified:

All cyanide is delivered as a 30% aqueous solution in dedicated tanker trailers. Dripless discharge fittings are used; any observed residues would be rinsed within the containment provisions of the offloading pad prior to stowage of the discharge hose and quick-release coupling on the cyanide trailer. Empty trailers are not permitted to be left on mine property, and trucks leave mine property immediately after offloading.

The TransWood driver is responsible for following CYANCO procedures that describe the process of uncapping the quick-release dripless coupling on the storage tank, attaching the discharge hose from the cyanide tanker, attaching a compressed air source (i.e., plant air or an onboard blower), and pressurizing the system to transfer the solution from the trailer to the stationary solution tank. The TransWood driver carries appropriate personal protective equipment, use of which is addressed as part of the CYANCO procedure. An RMGC operator witnesses the coupling and decoupling of the tanker.

It was observed that a plastic drip bucket was positioned at the quick-release couplings of all storage tanks. As without testing, any accumulated liquid in the buckets must be assumed to be process solution, appropriate signage for the buckets was requested along with task card modifications requiring rinsing the bucket into the adjacent containment if any residue was observed; RMGC completed the requested modifications satisfactorily prior to the submittal date of this report.

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

Standards of Practice

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

The operation is: ■ in full compliance  
☐ in substantial compliance  
☐ not in compliance…with Standard of Practice 4.1.
Discuss the basis for the Finding/Deficiencies Identified:

The active cyanide facilities at the RMGC operation include:

**South Dedicated Heap Leach Facility (HLF):** comprised of a synthetic-lined leach pad and solution/stormwater event pond system, a carbon adsorption plant (Carbon Plant), and a liquid cyanide offload and storage facility. The leach pad has been constructed in five phases (Phases 1 through 5). In total, the South Dedicated HLF pond system includes two solution ponds (i.e., Dedicated Pregnant Pond and Dedicated Lean Pond) and five event ponds. The cyanide offload and storage facility is located at the Carbon Plant.

**West Dedicated HLF:** comprised of a synthetic-lined leach pad and solution/stormwater event pond system, and two liquid cyanide offload and storage facilities. The leach pad has been constructed in six phases (Phases 1 through 6A). Phase 6A construction was completed subsequent to the December 2006 ICMC certification audit, and includes an expansion of the pad area and a new event pond. The new pad area was being loaded with ore during this onsite recertification audit; however, the area was not yet under leach. In total, the West Dedicated HLF pond system includes three solution ponds (i.e., Phase II Feed Pond, Phase III Feed Pond, and West Dedicated Return Pond) and four event ponds. The two cyanide offload and storage facilities are located at the Phase II Feed Pond and the Phase III Feed Pond.

**Reusable HLF:** comprised of two, asphalt-lined, reusable leach pads (East and West). The pads are located side-by-side at one location.

**Adsorption, Desorption and Recovery/Regeneration (ADR) Plant:** situated between the West Dedicated HLF and the Reusable HLF. The facility is comprised of the process plant, a synthetic-lined solution and stormwater event pond system, and a liquid cyanide offload and storage facility. The ADR Plant has one solution pond (i.e., ADR Barren Pond), two event ponds, and an evaporation pond (for neutralized acid water from the strip circuit). The cyanide offload and storage facility is located at the ADR Plant.

**Mill:** comprising a semi-autogenous grinding (SAG) mill and gravity and flotation circuits followed by a cyanide leach circuit and cyanide destruct circuit. The leach circuit is comprised of three leach tanks and six carbon-in-leach (CIL) tanks. The cyanide destruction circuit utilizes the INCO© process. Treated CIL tailings are combined with the gravity circuit tailings and pumped to the TSF. Screened carbon from the CIL circuit is sent to the ADR Plant for recovery of the precious metals and regeneration of carbon. Aside from groundwater sources, water from the Reclaim Ponds at the TSF is the only makeup source used in the Mill. Water quality data provided for these ponds demonstrate that WAD cyanide concentrations are consistently below 0.5 milligrams per
liter (mg/l). Therefore, for purposes of the ICMC, the cyanide facilities at the Mill include the cyanide leach, CIL and destruction circuits, and a liquid cyanide offload and storage facility.

Tailings Storage Facility (TSF): constructed with a full underdrain system to facilitate collection and drainage of solution from beneath the impoundment. A series of pipes drain to a synthetic-lined solution collection channel along the west side of the facility, which drains to a synthetic-lined pond system comprised of a sediment pond, two reclaim ponds (i.e., Reclaim Pond #1, and Reclaim Pond #2) and one event pond. As mentioned above, water quality data provided for these ponds demonstrate that WAD cyanide concentrations are consistently below 0.5 mg/l; therefore, this pond system is not considered a cyanide facility under the ICMC.

Tailings Conveyance Pipeline (from the Mill to the TSF): constructed of high-density polyethylene (HDPE) material and contained within a compacted earthen channel. The channel provides secondary containment for the pipeline system.

Five (5) Liquid Cyanide Offload and Storage Facilities: (see Section 3.1).

The RMGC operation has developed written management and operating plans and procedures for the cyanide facilities. The operating plans and procedures developed and implemented by RMGC cover the safe operation and management of the facilities. In addition to the management and operating plans, procedure documents include a wide range of RMGC departmental Standard Job Procedures (a.k.a. “Task Training Cards”). At the facility level, Task Training Cards and other operational instructions govern all cyanide management activities. Task Training Cards also serve to document individual training actions.

The design reports for the leach facilities, process plants, Mill and TSF incorporate the appropriate regulatory requirements. The Dam Safety Permit with the Nevada Division of Water Resources and the Water Pollution Control Permit (WPCP) with the Nevada Department of Environmental Protection (NDEP) identify the primary assumptions and parameters on which the facility designs were based, as well as the regulatory requirements regarding construction, operation and closure of the facility, and fluid management. The Industrial Artificial Pond Permits with the Nevada Department of Wildlife (NDOW) provide the operating requirements for impoundments to protect wildlife.

With the exception of the TSF, its sediment and reclaim ponds, and the various event ponds, all open process solutions at the Round Mountain operation are covered with netting or bird balls and certain channels are buried with crushed rock. All cyanide offload and storage areas are fenced to restrict access by terrestrial wildlife. RMGC uses buried drip emitters to apply leach solution to the tops of the heaps, to minimize ponding.

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RMGC has also implemented inspection programs for all cyanide facilities. The Environmental Department conducts weekly inspections of facilities, site wide. These inspections include examination of general operating conditions of facilities, wildlife protection, available freeboard in ponds and the tailings impoundment, and the condition of the stormwater diversion structure along the southeast side of the site. Wildlife observances are also recorded. Mill personnel conduct detailed, shift, daily, weekly and monthly inspections of the Mill and tailings facilities. The process personnel conduct detailed, routine inspections of the heap leach process areas including the pads, pond systems, and process plants. These inspections include, checking conditions of pipes, pumps, sumps, valves, safety equipment, signage and containment structures; and solution flow rates, tanks levels, pond levels, and concentrations. High-risk jobs scheduled for a particular week are identified and the area is inspected. Finally, the Safety Department conducts quarterly inspections (aka blitzes). These inspections cover all facilities, site wide.

Operational inspection checklists and forms include noted deficiencies or problems identified by inspections. Items requiring rectification or repair are addressed either by operational personnel or by the corresponding Maintenance Department via the work order system.

When facility or process changes are proposed, RMGC utilizes a risk assessment procedure to evaluate and minimize potential risks associated with the change. The procedure is designed to weigh subjective worker and environmental risk and assesses risk as a function of consequences x probability. Risk management involves defining the action to be taken, the potential for causing a higher likelihood of a cyanide release or exposure, the responsibility for monitoring implementation of the action or activity, and a timeline or schedule for monitoring possible effects. Following the onsite audit, the procedure was modified to clarify and document the requirements for safety and environmental department review and sign-off of changes that impact cyanide facility or management.

The RMGC Fluid Management Plan contains procedures to correct an upset in the facility’s water balance. The procedures address both “normal operations” and “unusual operations” for each of the process facilities including, but not limited to, the South Dedicated HLF, West Dedicated HLF, Reusable HLF, ADR Plant, Mill, TSF and process chemical storage and offload areas. Corrective action is based on available freeboard in the solution ponds and generally involves limiting new water into the process system. The procedures to be taken are additive and ultimately involve discharge of excess process solution to the lined Event Pond(s). Event Ponds are not used to store water and remain empty with the exception of accumulated precipitation, which is pumped back to the solution ponds after storm events. In the unlikely event that overflow of an event pond appears imminent a temporary containment structure would be
constructed. Detoxification reagents stored on site to allow process solution to be
detoxified as it enters the secondary containment structure.

Attachment 8 (Closure Plans) of the WPCP contains the seasonal closure plan (for
unplanned closure due to extremely severe weather conditions), temporary closure plan,
and the tentative plan for permanent closure. The seasonal and temporary closure plans
include measures for the ongoing monitoring and maintenance of facilities and to ensure
that adequate storage capacity is available in the solution ponds during periods of
seasonal or temporary cessation of operations.

The integrity and capacity of unloading and storage tank containment areas is checked
daily by operations personnel. Containments do not have drains. In addition to the visual
inspections of process tanks performed by operations personnel, Mill Maintenance
performs periodic draindowns and visual inspections of tank interiors for signs of
corrosion. RMGC has also conducted UT testing on each cyanide storage tank in
conjunction with various weld repairs.

The leak detection systems at the heap leach facilities and process plants (solution
channels, sumps, piping and ponds), and the TSF (collection channels and ponds) are
monitored weekly. Subsequent to the December 2006 certification audit, RMGC
installed a leak detection system for the buried solution feed pipelines at the Reusable
HLF. This system utilizes an electrical leak location method and is monitored biweekly.
Daily visual inspections conducted by operations personnel cover valves, pumps, and
piping. Additionally, RMGC performs annual nondestructive testing on the HDPE
tailings pipeline system to ensure physical integrity. The ponds and impoundments are
inspected twice daily (per shift) to ensure water levels are within design/regulatory
requirements and weekly inspections are conducted of available freeboard in ponds and
the tailings impoundment, and the condition of the upgradient stormwater diversion.
Furthermore, RMGC inspects its stormwater structures after significant stormwater
events, in accordance with its WPCP.

All inspection forms and checklists include the date of the inspection, the name of the
inspector and observed deficiencies. In most cases, the inspection forms and checklists
document the nature and date of corrective actions. A “hazard rating”, description,
responsibility for corrective action, and date the corrective action is to be completed is
also recorded. Aside from the operational and inspection forms and checklists, PM work
orders and corrective maintenance work orders issued to correct identified deficiencies
provide documentation of operational inspections. Maintenance inspections are
documented by the PM work orders. PM and corrective maintenance work orders reside
electronically in the maintenance software system. Based on the review of the facilities
during this onsite recertification audit, it was apparent that the inspection programs and
required follow up for repairs and PM work are effective.

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Records of inspection forms and checklists were available for review during the onsite audit. Most were being retained for a period of one year and some for a period of three years or more. Subsequent to this onsite recertification audit, RMGC developed a written procedure, which provides the rationale and responsibilities for the retention of records identified as necessary for compliance with the ICMC and in accordance with Kinross corporate policy. This procedure generally requires that ICMC-related documentation be retained for at least the period between audits, typically 3½ years.

RMGC has implemented a PM program for critical equipment. The PM schedule provides a listing of the equipment along with the planned time for maintenance. The PM system is managed using JD Edwards© (JDE) software, which automatically produces PM work orders on an established schedule. The system identifies future activities for regular preventive maintenance and includes information on the task requirements and completion. PM instructions are generated as an inspection checklist, and maintenance personnel inspect on this basis. Prior to December 31, 2007, the company had been using MIMS automated software.

The primary PM work order for cyanide facilities includes inspection of all cyanide pumps, lines, valves, flanges, flowmeters, heat trace, and other piping. Additional PM work orders include the final tails pumps at the Mill, pump lubrications, and inspections of HCN monitors. As discussed above all tanks are visually inspected for corrosion and leaks on a regular basis. CYANCO repair crews were typically contracted to perform all repairs to the storage tanks in response to specific inspection findings and it was apparent to the auditors that tank repairs were periodically taking place. Additionally, RMGC conducted UT testing on each cyanide storage tank in November of 2009. However, at the time of this onsite recertification audit, RMGC had not implemented a formal PM program for assessing the physical integrity of process tanks. Accordingly, subsequent to the onsite audit, RMGC implemented a PM schedule for performing periodic nondestructive testing on all cyanide process tanks.

Other than the automatically generated PM work orders, the Maintenance Department generates corrective maintenance and emergency work orders from work requests resulting from operational inspections. Operations personnel generate work requests (repair orders) and maintenance planners enter corresponding work orders into the JDE system. The work orders are tracked electronically through the JDE system. Additionally, RMGC has access to electronic records archived on the previously used MIMS system, over the period 1987 through December 31, 2007. Paper copies of work order are retained for a period of five years.

RMGC relies principally on event pond capacity to mitigate unintentional releases of process solution. The seepage collection pond system for the TSF is sized to contain the 100-year, 24-hour storm event, operating inventories, and a 48-hour power loss. Dedicated storage capacity is maintained in the pond systems at all times to meet these
design criteria. Although, based on available information, the referenced requirement could be handled by the operation without the need for backup power generation; RMGC recently purchased a new substation for the South Feed power line. The substation was commissioned in June 2009 and serves as emergency power in the event the primary power source (the North Feed power line) is interrupted. The mine-wide (overall) power requirement is approximately 21 megawatts. The South Feed line provides 7.5 megawatts to power critical equipment needed to prevent overflows (i.e., process pumps) and is used only as backup. Additionally, RMGC personnel indicated that emergency, diesel powered generators are maintained to run pumps at the South Dedicated leach pad, West Dedicated leach pad, ADR Plant, and Reusable leach pads, in case of a power failure. These generators therefore serve as a tertiary power source.

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

The operation is: ■ in full compliance
☐ in substantial compliance
☐ not in compliance…with Standard of Practice 4.2.

Discuss the basis for this Finding/Deficiencies Identified:

RMGC has tested various cyanide addition rates and continually monitors its leach process to optimize recovery and minimize cyanide consumption. To optimize recovery and minimize cyanide consumption, the operation attempts to maintain cyanide concentrations at established set points. RMGC performs manual titrations every two hours and records the results on the Leach/CIL Operator Log, which is completed daily by the day shift and night shift operators. Adjustments are made in the Mill control room, as necessary. Data obtained during this onsite recertification audit, demonstrate that cyanide concentrations over the period January 1, 2007 through April 27, 2010 were generally maintained within the set point ranges.

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

The operation is: ■ in full compliance
☐ in substantial compliance
☐ not in compliance…with Standard of Practice 4.3.

Discuss the basis for the Finding/Deficiencies Identified:
RMGC has developed a comprehensive, probabilistic (Stochastic) water balance model, using GoldSim© software, which tracks water flow throughout the engineered water management facilities at the Round Mountain site, including the dewatering and potable well systems, the Mill and TSF, all heap leach facilities, and the process plants (i.e., ADR Plant and Carbon Plant). The GoldSim© model was being developed at the time of the December 2006 ICMC certification audit and RMGC has since implemented the model. The GoldSim© model is a dynamic systems model, which evaluates probabilistic analysis using the Monte Carlo approach.

Generally, the model considers precipitation, evaporation, makeup water, ore leach rates, tailings deposition, ore and tailings uptake, seepage from the TSF to the Reclaim Ponds, reclaim water, power failure; and dewatering and potable water uses including discharge to the Rapid Infiltration Basin (RIB).

RMGC uses the 100-year, 24-hour storm event to forecast water management requirements, and multiple scenarios with varying conditions can be evaluated using the model, including drought conditions. The Round Mountain operation is located in a region of high net evaporation; therefore, RMGC must add a significant amount of freshwater to the processing facilities in order to offset the evaporative losses. Direct facility precipitation is the only runoff component accounted for by the model as surface water flow from upslope drainage areas is diverted away from the process facilities by engineered structures. The diversion is designed to control runoff resulting from the 100-year, 24-hour storm event.

The water balance considers the tailings deposition rate and rates at which solutions are applied to active areas of the heap leach pads. RMGC uses the 100-year, 24-hour storm event to forecast water management requirements. The pond systems are designed to contain the 100-year, 24-hour storm event, plus 24 hours of draindown from the heaps during an unexpected power outage, while maintaining two feet of freeboard. The seepage collection pond system for the TSF is sized to contain the 100-year, 24-hour storm event, operating inventories, and a 48-hour power loss. Dedicated storage capacity is maintained in the pond system at all times to meet these design criteria. Precipitation data is collected from an onsite meteorological station near the Core Shed building. The Environmental Department compiles the data on a monthly basis. The data provide a nearly continuous record of precipitation from December 1, 1993 to the present. Coefficients are applied to the pan evaporation rates to factor in the variation in evaporation from different surfaces i.e., open pond evaporation, evaporation from ponds covered with bird balls, wet tailings evaporation and dry tailings evaporation. The water balance does not specifically evaluate the effects of snow accumulation/melting within the facility as, while the site is subject to cold winters during which snow may accumulate briefly on leach pads, it usually blows away in a short period of time. The RMGC water balance model automatically accounts for frozen leach solutions based on actual metered irrigation rates.

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The model also incorporates losses due to controlled seepage from the TSF collected by the Reclaim Pond system as well as ore and tailings absorption. The ore processing facilities are designed for zero discharge to surface water or groundwater so all process solutions are contained within the fluid management system. The TSF Reclaim Ponds collect seepage from the lined collection system, for recycle to the Mill with no allowable discharges to the receiving environment.

The GoldSim© model allows specification of power outages for main facilities. For the RMGC model, these include the Mill, South Dedicated Carbon Plant, ADR Plant and the mine dewatering system.

At the time of this onsite recertification audit, the water balance model did not yet incorporate the recent Phase 6A expansion of the West Dedicated HLF, which includes an expansion of the pad area and construction of a new event pond. Nonetheless, although the new pad area was being loaded with ore during the audit, the area was not yet under leach. RMGC provided written correspondence as evidence that it plans to update the model to incorporate the new pad area.

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

The operation is: ■ in full compliance  
☐ in substantial compliance  
☐ not in compliance…with Standard of Practice 4.4.

Discuss the basis for the Finding/Deficiencies Identified:

The Industrial Artificial Pond Permits with the NDOW list the measures that shall be taken to prevent wildlife from gaining access to open cyanide-bearing solutions or to render the materials harmless to wildlife. Measures listed in the permit include fencing, covering/containment, chemical neutralization or isolation, and wildlife monitoring. The heap leach pads, collection channels and solution ponds are the only facilities in which open cyanide-bearing solutions occur with WAD cyanide concentrations greater than 50 mg/l. WAD cyanide concentrations in the tailings impoundment and its seepage collection pond system are well below 50 mg/l.

With the exception of the tailings impoundment, its sediment and reclaim ponds, and the various event ponds, all open process solutions at the Round Mountain operation are covered or protected by physical barrier systems. RMGC has the following measures in place: bird balls in solution ponds; French drain system (i.e., perforated pipe covered with crushed rock) or framed netting at leach pad collection channels; netting at overflow
containment channels; netting at collection sumps; framed netting at any temporary ponding areas on heaps; fencing at solution ponds and event ponds; and barbed-wire fencing installed along property perimeter to prevent ingress by larger animals. Additionally, all cyanide offload and storage areas are fenced to restrict access by terrestrial wildlife. RMGC uses buried drip emitters to apply leach solution to the tops of the heaps, to eliminate or minimize ponding, coupled with daily inspections. The programs are deemed effective at reducing wildlife mortalities to reach a zero mortality goal as related to cyanide exposure.

RMGC ensures that WAD cyanide concentrations in the open water TSF and solution ponds is <50 mg/l through a scheduled sampling program. The final tailings discharged to the TSF are sampled at the Mill daily. RMGC manages the tailings concentrations at much lower levels by destructing the CIL tailings using the INCO© process and then diluting the treated tailings with the gravity circuit tailings prior to discharge to the TSF. For the period January 1, 2007 through April 27, 2010 the maximum WAD cyanide concentration recorded in the final tails discharged to the TSF was 22.5 mg/l occurring on October 13, 2009. Concentrations in 2010 ranged between 0.2 and 7.4 mg/l through April 27. Water collected in the TSF seepage collection pond system is sampled bi-quarterly and reported to NDEP annually. For the period 2007 through 2010, WAD cyanide concentrations ranged between 0.012 mg/l and 0.13 mg/l.

The TSF and its seepage collection channels and ponds are the only facilities at the Round Mountain operation where open process solutions occur. The TSF and related systems are inspected on a daily basis by field personnel trained to report wildlife observances according procedures provided in the RMGC Environmental Managers Procedures Manual (EMPM). Additionally, RMGC environmental personnel conduct a weekly inspection of the TSF, which includes observation of wildlife where open process solutions are stored. Wildlife mortalities are reported to NDOW quarterly. No cyanide-related wildlife mortalities occurred in 2009 or 2010, to date. In 2007, three cyanide-related wildlife mortalities were reported. One was a small bird found inside the Mill building in a solution feed box. The other two were swallows found “associated with permitted cyanide solution” at the South Dedicated Pad. In 2008, a kit fox was found dead in open solution at the east side of the West Reusable Pad, and the quarterly report to NDOW indicated that netting was immediately installed.

In order to minimize ponding and to prevent overspray, RMGC uses buried drip emitters to apply leach solution to the tops of the heaps, which serves to minimize ponding. Drip lines on sides of heaps, with low potential for ponding due to the slope, remain on top of the slope surface. Application rates are reduced in areas of low permeability; and when ponding occurs, solution application rates are reduced and any open solution is covered with netting. Overspray is effectively eliminated with the drip emitters. Pressure checks are also conducted by the Pad Crew and Process Shift Supervisors.

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Visual observations by the auditor verified that the buried emitters are effective at eliminating significant ponding on the heaps. Although some minor ponding was observed, temporary netting was in place. The audit field inspection combined with the results of the wildlife mortality monitoring, demonstrate that the RMGC procedures for inspection and remediation are being effectively implemented.

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

The operation is: ■ in full compliance
☐ in substantial compliance
☐ not in compliance…with Standard of Practice 4.5.

_Discuss the basis for the Finding/Deficiencies Identified:_

This standard does not apply because the RMGC operation does not discharge to surface water, there are no perennial streams or other surface waters located within the permitted area of the RMGC site, and there are no indirect discharges of cyanide-contacting water to the environment. The operation is located several miles from the nearest surface water. The two closest surface water resources are Upper Antone Spring and Steep Spring located on U.S. Forest Service land and used for stock watering. Both are upgradient from the Round Mountain site. Additionally, the U.S. Army Corps of Engineers (USACE) determined there are no jurisdictional waters affected by the project.

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

The operation is: ■ in full compliance
☐ in substantial compliance
☐ not in compliance…with Standard of Practice 4.6.

_Discuss the basis for the Finding/Deficiencies Identified:_

Ground water protection measures employed at the heap leach facilities include synthetically lined pads at the South Dedicated HLF and West Dedicated HLF, asphalt-lined reusable pads at the Reusable HLF, double-lined solution ponds with leak detection and recovery systems, single and double-lined event ponds, and synthetically-lined solution channels and sumps.
The TSF embankment foundation is constructed with an HDPE primary liner underlain by a soil liner. An underdrain blanket (i.e., crushed material) with a series of perforated drainage pipes is installed above the primary liner. The full underdrainage system is designed to facilitate collection and drainage of solution from beneath the impoundment. The pipe network drains to the double-lined solution collection channels along the toe of the embankment. The collection channels convey seepage water to the pond system, which consists of three double-lined process ponds and a single-lined storm pond. The pipeline system conveying tailings from the Mill to the TSF is constructed of HDPE material and is contained within a compacted earthen channel. The channel provides secondary containment for the pipeline system.

RMGC conducts regular inspections and monitoring of the TSF and heap leach facilities to ensure that the operating criteria are being met. In addition, regular monitoring of groundwater and leak detection systems is conducted to ensure that the facility is functioning as designed and protective of the environment. Monitoring wells are located along the downgradient side of the process facilities and in various other locations around the property. Analytical results are reported to NDEP quarterly and annually. For the period 2007 to the first quarter 2010, WAD cyanide concentrations ranged between 0.0124 mg/L and less than the detection limit of 0.002 mg/l.

Groundwater use in the RMGC operation area is protected for domestic, mining and milling uses, and the regulatory numerical standard established for groundwater protection is 0.2 mg/l WAD cyanide, for Primary and Secondary Drinking Water Standards. The monitoring results reviewed demonstrate that the operation has not exceeded the above referenced numerical standard for WAD cyanide at the groundwater compliance points, and that the operation is protective of the designated “beneficial use” of groundwater. All results reported for WAD cyanide during this three-year period were well below the standard.

No remedial action related to groundwater protection or outstanding contamination is warranted or necessary. Although minor surface spills have occurred and are documented in the NDEP quarterly and annually monitoring reports, none were reportable spills pursuant to 40 CFR Part 302.4. These spills were cleaned up in minutes (less than one hour) in most cases.

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

The operation is: ■ in full compliance □ in substantial compliance □ not in compliance…with Standard of Practice 4.7.

Discuss the basis for the Finding/Deficiencies Identified:

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All cyanide storage and process tanks at the Round Mountain operation are located within concrete or lined secondary containment.

The cyanide process circuits at the Mill are within concrete containment located outside the Mill building. With the exception of the leach and CIL tanks, the process tanks are mounted on concrete pad foundations. The leach and CIL tanks are mounted on concrete ring beam foundations and rest on a 4-inch thick asphalt sand bed overlying an impermeable sprayed asphalt surface placed on select and compacted structural fill within the ring beams.

The cyanide offload and storage area at the Mill has a curbed concrete containment slab for the delivery truck with a grated drain sump. Operators are trained to pump the offload apron sump (via a portable submersible pump) into the automated sump located within the concrete containment provided for the cyanide storage tank. The storage tank is set on a concrete pad foundation within concrete secondary containment. At the ADR Plant, the process circuits are located inside the building within concrete containment (i.e., concrete floors and stem walls). The barren solution tank, lean solution tank, and reagent grade cyanide storage tank are located outside on the west side of the building. These storage tanks are within curbed concrete containment, which is connected to the barren solution pond located on the north side of the building. All cyanide process tanks at the ADR facility have concrete pad foundations or are supported above the plant floor by steel structures. Process circuits at the South Dedicated Carbon Plant are located within the plant building within concrete containment (i.e., concrete floors and stem walls). Tanks inside the building have concrete pad foundations or are supported above the floor by steel structures. The floor drain and sump system is designed to convey spillage (via lined channels) to the pregnant and lean solution ponds located on the west side of the building. The lean solution tank is located outside to the south of the plant building and is within its own concrete secondary containment. The cyanide offload area has a concrete containment slab for the delivery truck, which adjoins to the curbed concrete containment provided for the storage tank. The storage tank is set directly on the concrete containment slab. Any spillage from the truck or tank would flow into the plant building containment.

The two cyanide offload and storage facilities located at the Phase II and the Phase III Feed Ponds each have concrete slabs to contain any spills from the delivery truck. The concrete slabs are sloped to drain to the lined containment area, in which the storage tanks are located. The lined area is connected to the double-lined solution ponds. The storage tanks are horizontal tanks supported by steel skid frames set on the liner system.

All cyanide process tanks at the Round Mountain operation are provided with adequately sized, concrete or synthetic-lined secondary containment capable of holding the volume

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of the largest tank within the containment plus any piping draining back to the tank, as well as additional capacity to hold the design storm event. In the Mill, the available containment volume in the leach and CIL areas is equal to 150 percent of the largest tank volume. The Mill tailings thickener containment would provide additional containment capacity, if necessary. The containment area for the cyanide storage tank is equal to 176 percent of the cyanide storage tank volume.

The concrete secondary containment provided for all process tanks at the ADR Plant reports to the barren solution pond, which has a capacity of 18.8 million gallons. The concrete secondary containment provided for process tanks at the South Dedicated Carbon Plant reports to the lean and pregnant solution ponds, which each have capacities of 4.7 million gallons at the two-foot freeboard level. The separate concrete secondary containment provided for the lean solution tank at the Carbon Plant also drains to the lean solution pond.

The lined containment areas provided for the cyanide storage tanks at the Phase II and Phase III feed ponds are connected to the respective lined solution ponds. The Phase II Feed Pond has a capacity of 13.6 million gallons at the two-foot freeboard level and the Phase III Feed Pond has a capacity of approximately 28 million gallons.

The concrete secondary containments provided for the cyanide process tanks in the Mill, ADR Plant and Carbon Plant buildings have concrete floor sumps with dedicated pumps to collect and remove cyanide solution and slurry spillage for return to the process circuits and/or convey spillage to a lined solution pond. Daily visual inspections conducted by operations personnel include the physical integrity and available capacity of the secondary concrete containments, lined areas, and ponds. The containments and sumps do not have drains.

All cyanide process solution pipelines at the Round Mountain operation are provided with spill prevention or containment measures. The pipelines at the Mill, ADR Plant and Carbon Plant are contained within concrete secondary containment areas. An HDPE geomembrane is installed on the ground beneath a short segment of the cyanide feed line at the Mill, which extends overhead between the Mill building and the exterior concrete containment area provided for the leach circuit. The feed and return pipelines conveying process solutions at the heap leach facilities (including the pads and ponds) are primarily within lined collection channels.

At the South Dedicated Carbon Plant, an 80-mil HDPE liner is installed beneath the entire plant pad area, which drains to a lined collection ditch connected to the process ponds. This liner system provides secondary containment for the cyanide feed line affixed to the outside of the plant building. The buried pregnant and barren solution lines between the plant and the South Dedicated Leach Pad are within trenches lined with 80-mil HDPE liner. The lined trenches are equipped with leak detection monitoring sumps.
During the December 2006 ICMC certification audit, it was discovered that spill prevention or containment measures were not provided for buried HDPE process solution supply pipelines installed from the ADR Plant to the Reusable HLF. After evaluating a number of options, RMGC elected to install an electronic leak detection system along the buried feed lines. There are currently seven monitoring locations with detection plates installed every 10 feet along the lines. The Environmental Department monitors this system biweekly for leakage and the design engineer conducts a biannual audit of the system to ensure it is operating properly.

The HDPE tailings pipeline system between the Mill and the TSF is situated within a compacted earthen channel designed to contain 100 percent of the pipeline volume. Additionally, RMGC performs annual nondestructive testing on the pipeline system to ensure its physical integrity. Culvert systems are provided at roadway crossings along the pipeline corridor, which serve as a means to detect and collect leakage where the pipes are buried.

One final pipeline of note is the HDPE pipeline used to transfer process solutions between the West Dedicated HLF and the South Dedicated HLF. This pipeline is contained within a pipe-in-pipe system where it crosses outside of the lined leach pad areas (i.e., the area between leach pads).

RMGC uses black iron, stainless steel, and HDPE pipelines for conveyance of cyanide solutions and slurries. Bushings are installed where black iron and stainless steel join to prevent direct contact. Cyanide storage and process tanks are carbon steel. These materials are compatible with cyanide and high pH solutions.

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

The operation is:  ■ in full compliance
☐ in substantial compliance
☐ not in compliance…with Standard of Practice 4.8.

Describe the basis for the Finding/Deficiencies Identified:

New cyanide facilities constructed at the Round Mountain operation subsequent to the December 2006 ICMC certification audit include the TSF – Stage 4 Expansion; the West Dedicated HLF – Phase 6A Expansion; and the Reusable HLF – Installation and modification of electronic leak detection system for buried solution pipelines.
RMGC implemented Quality Assurance and Quality Control (QA/QC) programs during construction of these cyanide facilities and reports are retained by RMGC that document the QA/QC during construction of these facilities.

The completion report for the TSF expansion addresses the suitability of all construction works (earthworks). The expansion involved placing a 20-foot thick lift of run of mine rock fill on the existing embankment using mine haul trucks and placing a six-foot thick filter zone on the upstream face of the new lift. The report states that all samples met the material specification requirements.

The West Dedicated HLF expansion project (Phase 6A Expansion) included the Phase 6A West Dedicated Pad expansion, Reusable Pad modification, new pregnant sump, new Event Pond 38, and Phase 1 Feed/Phase 2 Return (Phase 1/2) bypass sump installation. The associated construction report addresses all construction works, including earthworks, HDPE liner systems, overliner pipe system, and French drain material. The report provides all laboratory test results conducted during construction. Additionally, RMGC provided documentation demonstrating that NDEP approved an asphalt/soil testing, removal and disposal plan, associated with truncating the southern portion of the Reusable HLF to accommodate the West Dedicated HLF Phase 6A expansion. Two reports by the design engineer address the suitability of construction for the initial installation and subsequent modification of the electronic leak detection system for the buried solution pipelines at the Reusable HLF. The system was initially installed in 2008 and was modified in 2009 to accommodate the Phase 6A expansion of the West Dedicated HLF. In each case, the design engineer tested the leak monitoring system for sensitivity and proper installation and operation following installation. RMGC retained the original QA/QC documentation for cyanide facilities constructed prior to and subsequent to the December 2006 ICMC certification audit. The documentation is archived in hardcopy and/or electronic format. Hardcopy records are kept in the engineering vault located in the Administration building.

The QA/QC documentation described above was prepared by professional engineers registered in the State of Nevada in all cases. The reports prepared for the TSF and HLF construction projects contain statements certifying that the facilities were constructed in accordance with the requirements of the design and/or in general accordance with the approved design drawings and specifications for the project.

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

The operation is:

- in full compliance
- in substantial compliance
- not in compliance…with Standard of Practice 4.9.

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RMGC has prepared and implemented written standard procedures for monitoring activities to evaluate the effects of cyanide use on wildlife and groundwater quality. The RMGC water quality monitoring plan describes monitoring locations, rationale, schedules, parameters, sampling, training, and other related procedures. Standard Operating Procedures are defined for each of these major components. The system addresses both groundwater monitoring and leak detection monitoring. Task Training Cards for different procedures are required to demonstrate that involved personnel are trained and current in the monitoring programs and their requirements. Wildlife monitoring is integrated into the daily inspections performed by operations personnel. Additionally, RMGC environmental personnel conduct weekly inspections of the operation, which includes observation of wildlife. The EMPM provides procedure for managing wildlife mortalities.

The EMPM, which contains the groundwater sampling protocol, was developed by RMGC personnel. During the December 2006 ICMC certification audit, the auditors reviewed the qualifications of these personnel and determined that these professionals have university degrees in environmental science disciplines and continue to be involved in ongoing education and training. The same protocols are currently being used. The water quality samples are sent to outside laboratories, certified in the State of Nevada, for analysis. The WPCP stipulates that RMGC use approved analytical methods, which (as set out in Nevada statutes) include only EPA approved methods. The EMPM contains RMGC’s Quality Assurance and Quality Control Plan, which is used to provide a reliable and accurate analytical database for assessing regulatory compliance. The groundwater monitoring schedule is in accordance with the RMGC WPCP. The schedule defines sample locations and frequencies. The EMPM provides a water sampling procedure that details the steps for collecting, preserving, and preparing the samples prior to shipment. It also provides shipping and chain of custody procedures, and instructions for maintaining the sampling equipment. The chain of custody forms specify the analyses requested for each sample. Field sampling conditions are documented on the RMGC Well Data Documentation Form.

RMGC does not monitor surface water as there are no perennial streams or other surface waters located within the permitted area of the RMGC site and the operation is located several miles from the nearest surface water.

RMGC reports wildlife mortalities to NDOW quarterly. Information from the Wildlife Mortality Identification Tag forms is entered into an Excel® spreadsheet, which is used to track all wildlife mortalities. The spreadsheet, managed by the Environmental Department, includes data from 1995 to present. Reported wildlife mortalities are discussed in Section 4.4.
RMGC conducts monitoring at frequencies adequate to characterize groundwater quality and wildlife mortalities. The EMPM contains the water quality monitoring schedule developed in accordance with the operation’s WPCP. The schedule defines sample locations and frequencies. Groundwater sampling is conducted quarterly and leak detection monitoring is conducted weekly. Wildlife monitoring is conducted daily and weekly.

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

*Standards of Practice*

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

The operation is:
- ■ in full compliance
- □ in substantial compliance
- □ not in compliance…with Standard of 5.1.

*Describe the basis for the Finding/Deficiencies Identified:*

Decommissioning planning requirements are driven by regulation. Review of the March 2006 and April 2007, 2008, and 2009 Revised Comprehensive Reclamation Plans (CRPs), as well as the 2010 *Comprehensive Reclamation Plan for the Round Mountain Expansion* (which had just been submitted at the time of the recertification audit) indicate that these requirements have not changed since the December 2006 audit. As a condition of the reclamation permit, RMGC is obliged to prepare and submit annually updated CRPs for review and approval by the Nevada Department of Environmental Protection (NDEP) and the US Bureau of Land Management (BLM). CRPs contain general summaries of cyanide facility closure actions in sufficient detail to permit estimation of third-party implementation costs. Any changes in these assumptions will be reflected in modifications to the next annual update to the CRP.

As the actual start of reclamation approaches, it is understood that the level of procedural detail in the CRP will be increased and supporting task cards or standard operating procedures (SOPs) be developed or modified as necessary to fully implement RMGC’s closure obligations. The State of Nevada has issued a number of specific procedural guidelines that will need to be considered in the development of final task cards/SOPs. The CRPs include a conceptual-level implementation schedule in support of the decommissioning and closure cost estimates required by the governing regulation.
5.2 Establish an assurance mechanism capable of fully funding cyanide-related decommissioning activities.

The operation is:  ■ in full compliance
 □ in substantial compliance
 □ not in compliance…with Standard of Practice 5.2.

Describe the basis for this Finding/Deficiencies Identified:

Decommissioning planning requirements have not changed since the December 2006 audit. They are driven by regulation and include requirements for estimating third-party costs as the basis of an annually updated bond with the BLM. The bond contains contingency funds to accommodate unanticipated changes that may occur within a given year. The 2010 Comprehensive Reclamation Plan for the Round Mountain Expansion was submitted to the regulatory agencies during the audit (April 29, 2010) and addresses the proposed expansion project involving the development of a new pit, leach pad, and infrastructure to the north of the current mine, as well as expansion and deepening of the existing pit.

As a permit condition, RMGC is obliged to update its CRP submittals and bond estimates on at least an annual basis. CRP submittals directly support the bond estimates; CRP revisions will prompt an evaluation and, if necessary, update of the associated bond estimate.

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

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

The operation is:  ■ in full compliance
 □ in substantial compliance
 □ not in compliance…with Standard of Practice 6.1.

Describe the basis for the Finding/Deficiencies Identified:

Operating procedures (a.k.a. task cards) that address working with cyanide include: Cyanide Safety, Monitoring and Off-loading Cyanide Deliveries, ADR Carbon Plant Operator, Dedicated Plant Operator and Titrating for Cyanide. There is also a mine wide Confined Space Entry procedure and permitting process. These procedures identify cyanide exposure hazards, worker training requirements, general safety and PPE
requirements, pre-work inspections, operating procedures (e.g., monitoring for pH and calibrating pH monitors), requirements for equipment decontamination and emergency response. The overall system has not changed since the initial certification audit in 2006. Where revisions have been made to task cards, the revision date is noted on the task card. Controlled copies of the procedures are available in PDF format on RMGC’s computer network.

Pre-work area inspections are required to be completed by operators at the start of each shift to look for hazards that could result in injury, process loss or equipment damage. These inspections include process equipment, piping, ponds, pumps, fencing, netting, as well as safety equipment (eyewash, showers, first aid, antidote and PPE cabinets). In addition to the pre-work area inspections the ADR assistant also completes a daily ADR Assistant Report which is a record of a detailed plant inspection that includes checking the seal on the cyanide antidote kit cabinets, eye-wash/shower operation, and recording HCN monitor readings. Pre-work inspections that include eye-wash stations and emergency response equipment are also required prior to cyanide truck unloading.

The minimum PPE requirement is specified in the task cards for specific operations. The task cards also specify additional PPE requirements depending on job and conditions. During the site inspections all field personnel were observed to be wearing minimum PPE (hard hat, safety boots, safety vest and goggles). Hearing protection was being worn in those areas where protection was required. All external eyewash/shower stations were observed to be heat traced to minimize the potential for freezing.

A risk assessment procedure is used anytime a task or project requires a new process, new equipment, a non-task card operation or a non-routine maintenance practice to be undertaken. The process includes evaluation of risk before a change using a simple probability of occurrence versus severity matrix; review of controls to mitigate the risk generated by the proposed changes; and review of risk after the change has been implemented to ensure that it is acceptable. A risk assessment worksheet is completed during this process which is reviewed and signed by the responsible person (project owner) and by the workers assigned to implement the change to confirm that they understand and concur. Although records showed that the procedure was being followed, many of the records reviewed did not clearly identify the participation, if any, of the Safety and Environmental departments. Subsequent to the audit the risk assessment procedure was modified to require the Safety and Environmental departments to review and sign-off on all changes that involve cyanide facilities or management.

Procedural/process changes are also managed through creation or modification of task cards. This is completed through an established process whereby draft or revised draft task cards are reviewed first by the superintendent and then by the shift supervisors who review and also obtain comment from shift workers. The final draft is then reviewed for

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approval by the superintendent, shift supervisors and Safety Manager. The finalized task card is then issued and rolled out to shift workers during tailgate meetings.

RMGC also uses Kinross Gold’s Authorizations for Expenditure (AFE) procedure when applying for capital expenditure funding. The procedure includes a formal environmental and health and safety review of the proposed project and sign-off by various management departments including the Vice President/General Manager, as well as Environment, Safety, and other management representatives.

The operation solicits and actively considers worker input through inviting their participation to review and comment on changes to task cards. Weekly tailgate safety meetings where open discussion is encouraged also provide opportunities for workers to discuss work issues and ways to improve safety.

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

The operation is: ■ in full compliance
□ in substantial compliance
□ not in compliance…with Standard of Practice 6.2.

Describe the basis for the Finding/Deficiencies Identified:

Sodium cyanide is delivered to the mine in liquid form at a pH of 10.7, minimizing the potential for HCN generation during unloading operations. The cyanide circuit is kept above pH 10 to prevent generation of HCN in the workplace. The pH is controlled through monitoring and manual adjustment. Process solution is sampled every two hours for pH determination and the pH is recorded on daily plant operator logs. In the mill there were a number of automatic pH meters that report to the process control monitor in the control room. During the audit these pH meters were observed not to be working properly, although the mill foreman indicated that these meters are not relied on and pH determinations are based upon the 2 hr sample analyses. Subsequent to the audit these automatic meters were replaced with new units and will be used on an as required basis to supplement the analytical data.

To minimize the potential for worker exposure to HCN, operating procedures require that, in the event that pH levels drop below 9.6, the plant doors will be opened, ventilation fans activated, and Monitox readings taken until the pH has returned and stabilized at pH10+. 
There are fixed HCN gas detectors located in areas of the dedicated plants and mill in areas where HCN generation has been determined to be a potential concern. The units are manufactured by Draeger and replaced the previous units about one year ago. Each unit is fitted with an audible/visual alarm set to trigger at 4.7 ppm and 10 ppm HCN. The meters are monitored twice each shift by the operation and normally report ambient levels in the range of about 1 ppm or less.

Because RMGC handles only liquid cyanide the potential for exposure from cyanide dust is extremely low. The highest risk areas for HCN generation have been identified by RMGC as the CIL circuit and storage tank area at the Mill, the South Dedicated Plant and the West Dedicated ADR plant. These risks are managed through maintaining pH levels of cyanide solution at the desired pH target of between 10.0 and 10.5; using fixed HCN meters to monitor these areas; and following procedures requiring use of appropriate PPE and actions to be taken in the event that solution pH levels drop. Each shift crew is provided with a portable HCN meter.

The fixed HCN monitoring equipment is calibrated on a 28 day schedule tracked through the JDE system. The sensors are scheduled for replacement annually as recommended by the manufacturer. RMGC also has ten Monitox portable HCN meters. These monitors are calibrated on a six-month schedule by an outside contractor. In addition to these monitors, the Safety department has a self calibrating ITX gas meter that includes a HCN Sensor. At the time of the audit RMGC had three additional ITX gas monitors on order for use in the ADR, Dedicated Plant and shifters office. Both the fixed and portable monitors are calibrated to alarm at 4.7 and 10 ppm and the calibration records kept for a minimum of 1 year.

The placement of warning signage was observed to be excellent. Signs as described under this requirement are posted in all areas of the site where cyanide is present. Signs are clear and clean and posted in visible places on entrances to plant and pond areas, on fences, and on tanks and piping.

Emergency showers and eyewash stations are located in or near all operational areas involving high concentrations of cyanide and other hazardous chemicals. Eyewash stations are inspected every shift as part of shift inspection and inspections documented on the operator daily checklist. Eyewash units at the unloading areas are also checked prior to unloading deliveries of cyanide. Shift supervisors also conduct monthly safety inspections which include eyewash station checks. The pressure of eye-wash stations is regulated by ensuring that the water spray height of the eyewash is not excessive (maintained at about 10 inches). Eye-wash stations were checked during the audit and all were operating with adequate flow and within this maintenance criterion to ensure low-pressure operation.
Fire extinguishers are checked monthly by departments and the records and maintenance schedules are maintained by security. Annual fire extinguisher maintenance is conducted by RMGC. Extinguishers located in cyanide areas were all ABC dry chemical type, and tags were observed to be clearly marked with the date that the next maintenance is due.

MSDS binders were observed in plant areas where cyanide is handled. In addition, there are posters that provide information on cyanide hazards, exposure symptoms, handling precautions, and first aid posted in strategic locations around the plant and unloading areas. First aid procedures and other information on cyanide are also included in the Cyanide Safety Task Card and the RMGC Spill Response Plan for Cyanide. The Safety department is responsible for maintaining the master MSDS list for RMGC and provides copies of MSDS to employees on request. RMGC utilizes the 3E Online MSDS Inventory Management System which is accessible by all employees through dial up service. MSDS provided by 3E Online are faxed to security for pick-up by the requestor.

A written procedure is in place to document and investigate all incidents and near misses that occur at the mine. Incidents and near misses are reported into an online database and hard copies of records are maintained. Since the 2006 audit RMGC has experienced one cyanide related incident on-site. This incident occurred in the ADR on 29 March 2010 and involved an operator who became nauseous and short of breath after being in the plant. Another plant operator noticed his condition and activated an evacuation of the plant. The operator was given oxygen and transported to the Nye Medical Centre in Tonopah. A detailed root cause analysis including several investigative chemical tests were undertaken. The analysis revealed that an acid wash procedure used to clean carbon from the Mill before being sent to the regeneration oven had been missed. This error resulted in a local release of HCN generated from residual remaining in the carbon as it was heated. During the investigation no carbon from the Mill was allowed to be regenerated in the ADR. Following the investigation the procedures on the ADR Task Card were modified to ensure that only acid washed carbon from the Mill was placed in the regeneration oven. The investigation also identified that hygiene may also have been a contributing factor. Other task cards were therefore also being updated with revised hygiene requirements. The revised procedures were discussed by shift workers in tailgate meetings and at the Ore Processing monthly Cost Review meeting. Appropriate modifications were subsequently made to the governing task card, and operations staff were re-trained accordingly when it was formally reissued.

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

The operation is: ■ in full compliance □ in substantial compliance □ not in compliance…with Standard of Practice 6.3.

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Describe the basis for this Finding/Deficiencies Identified:

Cyanide antidote kits (containing amyl nitrite ampoules (1 dozen), activated carbon, oxygen bottle, a bag valve mask and first aid instruction) are located in three locations in the Mill; in the control rooms in the ADR, Mill and Dedicated Plant; in two locations in the Met Lab; and in the cyanide storage tank areas for the ADR, the Phase 2/3 feed pond, and the Phase 4/5 feed pond. An antidote kit with amyl nitrite and sodium thiosulfate is also located at the clinic.

Antidote kits are stored in refrigerators that are sealed with a lockout tag which is checked daily. The antidote is stored within the temperature range recommended by the manufacturer. The expiry date for oxygen, antidote and activated carbon is checked monthly and these items replaced as required. Although anecdotal evidence indicated that these checks were being undertaken, record keeping was observed to be incomplete and in need of improvement. Subsequent to the audit the procedure was modified to ensure that records are completed fully and maintained and two months of records were provided to the auditors to demonstrate that the procedure had been implemented.

All cyanide unloading, storage areas and process areas have readily accessible emergency eyewash/shower stations. All personnel with cyanide management responsibilities have cell phones or access to radio communications. TransWood drivers are also provided with RMGC radios by security as they enter the site to facilitate communication while they are onsite.

There are also fire and HCN alarms located in the plants to provide visual and audible warning in the event of an emergency. In addition, when emergency responders are required at an incident, security activates a “Code Blue” in which they broadcast, through radio announcement and visual blue strobe lights, a requirement for traffic to halt and radio silence to be maintained by all except emergency responders.

The Mill and Ore Processing “Cyanide Safety” SOP provides training requirements knowledge base for recognizing cyanide exposure symptoms and administering first aid, including application of oxygen and amyl nitrite. It includes CN safety rules, exposure symptoms and effects, PPE requirements, locations of emergency response kits, emergency reporting, and application of antidote/medical treatment. The 29 March 2010 incident (Section 6.2) shows that RMGC training is effective.

In addition to the first aid training provided to all plant operators, there is a clinic on site (operated Monday through Thursday) run by two nurses and a physician’s assistant. The physician’s assistant is qualified to administer sodium thiosulphate by injection if required. Although the State of Nevada does not permit emergency medical technicians
(EMTs) to administer amyl nitrite, shift workers are able to administer it through the 
Good Samaritan Law.

The mine has an ambulance to transport a patient to Nye Regional Medical Center 
(NRMC) if needed. The basic call-out procedure has not changed since the 2006 audit. 
The Nye County ambulance service will typically transport patients from Round 
Mountain to NRMC. RMGC also has an MOU with Nye County to make its ambulance 
available for tending to off-site emergencies when requested. The Vice 
President/General Manager’s approval is required to release the ambulance for this 
purpose. Approval is dependent on backup capability being available and maintained at 
the mine.

Formalized arrangements with local medical providers have not changed since the 2006 
audit. RMGC has just renewed a five year MOU it has with Nye Regional Medical 
Center. In the MOU, RMGC agrees to “support medical emergencies consistent with our 
long standing record for supporting mutual aid and to the extent described herein”. Nye 
Regional Medical Center agrees to support this effort by “maintaining training, necessary 
equipment and medical supplies to manage a cyanide medical emergency.”

RMGC has an onsite clinic available to its employees on a Monday-Thursday basis. 
After hours and Friday-Sunday is covered by NRMC medical facilities in Tonopah. Both 
facilities have been briefed on the potential for a cyanide related incident and have the 
capabilities of treating a cyanide exposure case.

Depending on the situation, transport to an off-site medical facility may be as simple as a 
quick trip by car or as elaborate as evacuation by plane or helicopter. RMGC has onsite 
EMT personnel, and works on a frequent basis with Nye County EMTs. Many of Nye 
County’s EMT personnel are also RMGC employees.

EMTs and emergency personnel participate in monthly rescue training sessions. At least 
two sessions a year usually directly involve cyanide, while others may involve hazardous 
material response or other scenarios that would be associated with a cyanide related 
emergency. Multifaceted cyanide emergency response mock drills are also held 
approximately every two years. Since 2006, drills were held in September 2006, October 
2008 and April 2010. These drills test the Emergency Response Manual (EMP) and 
Local Crisis Management Plan (LCMP) procedures and provide practical training for the 
EMT, and the emergency response and local crisis management teams. Mock drills are 
reviewed and critiqued by participants and observers and lessons learned incorporated 
into emergency response procedures.

Although mock drill records were found to document the scenario undertaken and 
included critique and recommendations, they did not clearly include lists of participants 
and stakeholders engaged in the drill and debriefing, or provide evidence that
recommendations for improvement documented in the critiques had been implemented. Following the site audit RMGC developed a written procedure that provides guidance on critiquing, reporting and tracking recommendations for improvement of emergency response performance identified during the critique. Objective evidence of completion of this procedure was provided prior to the submittal date of this report; RMGC will follow this procedure when undertaking mock drills in the future.

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

*Standards of Practice*

7.1 Prepare detailed emergency response plans for potential cyanide releases.

The operation is:

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

*Describe the basis for the Finding/Deficiencies Identified:*

RMGC has an Emergency Response Manual (ERM) to address emergencies at the mine, including hazardous materials emergencies and cyanide response. The manual is divided into 5 parts: Emergency Management Guidelines; Communications, Emergency Utilities Shutdown; Emergency Response Guidelines, and Hazardous Material Response Guidelines. Section 5.8 “RMGC Spill Response Plan – Cyanide” details the emergency response kits and equipment available around the site for responding to cyanide releases; and addresses incident response procedures and release cleanup. In addition, RMGC has a Local Crisis Management Plan (LCMP) that addressing communication during emergency/crisis situations (i.e., serious injury, fatality and/or significant environmental incidents). This plan supplements the ERM by providing responsibilities for crisis communication, and Kinross Corporate involvement.

Review of the RMGC Spill Response Plan indicates that the potential failure and release scenarios identified by the ICMC have been addressed. If a catastrophic event were to occur requiring the evacuation of the town, the evacuation and other off-site responses required would be coordinated through the Nye County Sheriff’s Department and Round Mountain Fire Department. The likelihood of a catastrophic event involving cyanide is highly unlikely, however, as the risk has effectively been eliminated or largely mitigated through the provision of ample dedicated pond emergency storage capacity and emergency power backup, as well as in-place cyanide management controls.

CYANCO is responsible for responding to cyanide releases and incidents during transportation, and as part of their contract, RMGC does not take control of the cyanide.

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until it is delivered into the RMGC system. However, in the event of a release during shipment, the Cyanide Response Plan indicates that Nye County “Round Mountain” Fire Department’s HAZMAT team will respond. Their response actions would be limited to delineating and securing the area and containing any release.

The structure of the ERM has not changed significantly since the 2006 audit. The roles and responsibilities for managers, supervisors, security, and shift workers are clearly laid out; procedures and responsibilities are provided for the emergency shutdown of utilities and process equipment including valves, pump, electrical power, gas, process solutions etc., as required; and primary and secondary evacuation assembly areas are listed. Because of the distance of the site from the nearest community (about 2 miles) the plan does not detail response actions for evacuating communities. However, in the unlikely event that such incident was to occur, the mine would coordinate the emergency with Nye County, who would have responsibility for coordinating community evacuation if needed.

7.2 Involve site personnel and stakeholders in the planning process.

The operation is:

■ in full compliance
☐ in substantial compliance
☐ not in compliance…with Standard of Practice 7.2.

Describe the basis for the Finding/Deficiencies Identified:

Workers that work with or around cyanide are required to undertake Cyanide Safety training and annual refresher training in cyanide response. These forums allow worker input into improving site safety, including emergency response. The emergency response team has been included in the preparation of the cyanide response plan and also conducts monthly training exercises which are reviewed for improvement in emergency response. Also, during weekly tailgate safety meetings, the workforce are regularly engaged in emergency response planning through review and discussion of lessons learned from recent incidents and near misses.

In 2008, with cooperation from the local community, a review of local emergency response capability was conducted against with the United Nations “Awareness and Preparedness for Emergencies at Local Level” Guideline (APELL). The review looked into local emergency response capability, cooperation initiatives and communication. The outcome of the review was an agreement for integration of the Nye County and RMGC emergency plans through an APELL coordinating group made up of Nye County Emergency Services, Round Mountain Fire Department, the Nye County Sheriff and representatives of RMGC. The agreement included a commitment by the APELL coordinating group to keep their emergency plans updated and properly communicated to all members of the group. As part of this agreement RMGC relies on the Fire
Department’s HAZMAT team to respond to chemical (including cyanide) emergency response. Several of the emergency response team members at RMGC are also members of this HAZMAT team.

Through the APELL coordinating group Nye County Emergency Services, Round Mountain Fire Department, and the Nye County Sheriff are involved with emergency planning including emergencies that could occur at the mine. These agencies also participate in mock drills.

The agencies that would be involved in local response are the Round Mountain Fire Department and HAZMAT Response Team and the Smoky Valley Ambulance service. The fire department is made up largely of emergency response team members from RMGC. The department is therefore very familiar with the mine site layout and the potential hazards, as well as RMGC’s ERM. The Fire Department and County Ambulance participated in the 2008 and 2010 mock drills.

In the event of an incident that requires medical treatment, the RMGC clinic would provide initial treatment. RMGC has an MOU with Nye Regional Medical Center in Tonopah to ensure that the Center maintains a capability to handle medical cases involving cyanide.

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

The operation is:  ■ in full compliance  
☐ in substantial compliance  
☐ not in compliance…with Standard of Practice 7.3.

Describe the basis for the Finding/Deficiencies Identified:

RMGC has a trained Emergency Response Team (ERT) and designated primary and alternative emergency response coordinators with authority to commit the necessary resources to implement the emergency response plan. Several ERT members are also trained in HAZMAT response and are part of the Round Mountain Fire Department HAZMAT Team. The crew teams are selected to ensure that there are personnel with sufficient skills and experience available on each crew shift to respond to an incident.

The ERM provides contact lists and numbers of emergency response crews and coordinators as well as roles and responsibilities of workers, the ERT members and designated emergency coordinators. The shift supervisor is designated incident commander, being the most knowledgeable of the plant. All workers undertake emergency response training during annual refresher training and emergency response
coordinators also conduct ERM training as part of annual supervisor refresher training. In addition emergency responders participate in mock drills.

RMGC has agreements with Nye County with regard to provision of off-site emergency response support. There is also a MOU established with Nye Region Medical Center that they will maintain capability to provide medical assistance in the event of an emergency. The Round Mountain Fire Department and HAZMAT Team would respond in the event of a fire or hazardous material emergency at the mine site. Although, CYANCO is responsible for responding to all emergencies related to the transportation of cyanide, RMGC will provide emergency response support as required. Out-side responders are aware of their roles and responsibilities in the ERM through communication between APELL group members and participation in mock drills arranged by RMGC.

An inventory of emergency response equipment, including number, location and contents of antidote kits is listed in the ERM. The emergency response stations are checked daily during shift inspections and inspected and maintained monthly by the Safety department. Mine rescue equipment is also available as required. This equipment is checked after use during emergencies and training exercises, and any used inventory or damaged items replaced.

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

The operation is:  ■ in full compliance
       □ in substantial compliance
       □ not in compliance…with Standard of Practice 7.4.

*Describe the basis for the Finding/Deficiencies Identified:*

Site emergency response contact procedures identify responsibilities for responding and reporting. The discoverer of an emergency is responsible for contacting his/her supervisor and/or security. Security is in turn responsible for broadcasting a specified emergency response tone to activate the response system over all RMGC radio channels. If necessary, security will announce a “Code Blue” alert, which halts all traffic in the mine. Security is then responsible to contact the patrol officer and a member of the Safety/Security department (i.e., the designated on-call safety person). This person is responsible for calling the Vice President/General Manager and other managers. The patrol officer arranges emergency medical team and ambulance support as required. If an injured person has to be moved off site the department manager, general manager, operations manager or his designee, and the human resources manager are notified. Other RMGC emergency coordinators are authorized to contact corporate, regulatory safety compliance, regulatory environmental compliance, medical facilities, and
stakeholders. The Nye County Fire Department is the first response and community contact in an emergency requiring off-site assistance.

The Vice President/General Manager is the official spokesman for RMGC in any emergency situation, and manages all communications with media, mineworkers and their families, and the public.

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

The operation is:  
- ■ in full compliance  
- □ in substantial compliance  
- □ not in compliance…with Standard of Practice 7.5.

*Describe the basis for the Finding/Deficiencies Identified:*

The Spill Response Plan for Cyanide provides actions to be taken to respond to cyanide spills including requirements for containing the spill, buffering with sodium hydroxide to control pH and/or using calcium hypochlorite for cyanide destruction and management of cyanide contaminated soil on the active leach pad. The Plan also describes the use of an earthen berm to contain cyanide spills. Spilled solutions and carbon granules are to be recycled back in the process.

There is a standard operating procedure that details confirmation soil sampling, use of sample kits, selection of sample spacing, sample management, selection of analysis, and remediation criteria. The procedure also discusses use of sodium or calcium hypochlorite for neutralization of areas where residual contamination cannot be excavated. The procedure is supported by a memorandum that details the preparation of the appropriate hypochlorite concentrations for treating cyanide spills to soil.

Drinking water supply wells are a considerable distance to the west of the site, and are highly unlikely to be affected by any spills. Impact to drinking water supplies is therefore not considered a risk, and the provision of alternative supply is not considered relevant to the response plan. Monitoring well data from the west side of the site show non-detectable concentrations of cyanide since monitoring was first initiated in 1987.

There are no perennial surface water bodies on or adjacent to the mine site; if RMGC responds to an off-site emergency that may be near a surface water body, RMGC will limit its response to cordoning off the incident area and containing a spill pending action by CYANCO. As previously noted, CYANCO is responsible for remediation of off-site releases that occur during transportation of cyanide to the mine site.
7.6 Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is:  ■ in full compliance  
☐ in substantial compliance  
☐ not in compliance…with Standard of Practice 7.6.

Describe the basis for the Finding/Deficiencies Identified:

The RMGC Spill Response Plan for Cyanide is an integral part of the ERM. Updated copies of this ERM are maintained on RMGC’s intranet. Controlled hard copies of the ERM are also located in the Crisis Management Room, Main Gate Security, Safety Manager’s office and Vice President/General Manager’s office.

During the audit it was evident that procedures for maintaining controlled hard copies and the controlled intranet copy of the ERM were not clearly understood. As a consequence, elements of the hard copies were not current and a procedure in the CERP had not been updated to incorporate changes in responsibility for HAZMAT equipment inspection and maintenance after these responsibilities were transferred to Nye County as part of an MOU integrating emergency response services between RMGC and Nye County. RMGC representatives were requested to develop a written procedure that clearly assigns roles and responsibilities for update, maintenance, and management of controlled copies of the ERM. To demonstrate that the revised procedure had been implemented, RMGC provided the auditors with a copy of the updated ERM and a memo signed by staff acknowledging their understanding of the procedure and their roles and responsibilities.

The effectiveness of emergency response procedures are evaluated through cyanide emergency response mock drills that are held approximately every two years as well as through monthly emergency response team training. Mock drills test the ERM and LCMP procedures with regard to cyanide releases and provide practical training for emergency responders, emergency coordinators and the local crisis management team.

These drills are reviewed and critiqued by participants and observers and lessons learned incorporated into future emergency response planning and approach. Because mock drill records for drills undertaken in 2008 and 2010 did not clearly identify drill participants or demonstrate that recommended actions had been implemented RMGC was asked to develop a revise their record keeping procedure. Following the site audit RMGC developed a written procedure that provides guidance on critiquing, reporting and tracking recommendations for improvement of emergency response performance.
identified during the critique. RMGC will follow this procedure when undertaking mock drills in the future.

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

**Standards of Practice**

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

The operation is:

- ■ in full compliance
- □ in substantial compliance
- □ not in compliance…with Standard of Practice 8.1.

**Describe the basis for the Finding/Deficiencies Identified:**

All new hires and contractors are required to undertake general hazardous awareness training before they are permitted to enter the site. This training includes corporate policy, general site safety including cyanide hazards, emergency response, signage and PPE requirements and traffic rules. Workers assigned to areas where cyanide is used are also required to undertake Cyanide Safety training that addresses properties and characteristics of cyanide; personal hygiene; precautions and safety rules; effects of HCN; symptoms of cyanide poisoning, and first aid and treatment. Training is provided by a dedicated training specialist.

Cyanide Safety training records are retained for all management and operations personnel who encounter the use of cyanide in their day-to-day activities. Training status is actively tracked by the Process Training Coordinator via an Excel spreadsheet that is hot linked to individual task cards.

The Process Training Coordinator provides an annual safety refresher course for all RMGC staff assigned to areas involving the use of cyanide (i.e., assay lab, ore processing, and mill personnel). Training materials and other resources are provided by CYANCO as the basis for this course, which is also updated annually.

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

The operation is:

- ■ in full compliance
- □ in substantial compliance
- □ not in compliance…with Standard of Practice 8.2.
Describe the basis for the Finding/Deficiencies Identified:

Workers are required to undertake task specific training before being permitted to work alone in cyanide areas. Task specific training requirements are defined in standard operating procedures (a.k.a. task cards) which provide specific instructions related to the management of cyanide on a day-to-day basis. Task specific training requirements include task observation and minimum number of job hours (which are logged and signed-off by the trainer), as well as prerequisites such as other task card or MSHA 5000-23 training. Acknowledgement of training in specific task card requirements is provided by the individual trainee, and records are retained in individual employee files kept by the Process Training Coordinator who also actively tracks training via an Excel spreadsheet that is hot linked to individual task cards.

The Process Training Coordinator has primary responsibility for safety training RMGC staff that work with cyanide on a day-to-day basis. He is a Mine Safety and Health Administration (MSHA) certified instructor and also periodically attends the cyanide safety train-the-trainer course provided by CYANCO. He last attended the training in June 2008 and is scheduled to attend a refresher in June this year.

The Process Training Coordinator provides an annual refresher course for all RMGC staff assigned to areas involving the use of cyanide (i.e., assay lab, ore processing, and mill personnel). This training includes MSDS, what is cyanide, uses of cyanide, cyanide manufacturer, physical and chemical characteristics, importance of pH, routes to exposure, cyanide poisoning, high risk areas of the site, symptoms and first aid (including application of amyl nitrite and oxygen), delivery truck design and safety features, safe handling of cyanide, personal hygiene, and detoxification of cyanide.

New hire/refresher training concludes with a written examination. Task card-specific training is not considered complete until the trainee and the trainer/supervisor are mutually satisfied that the training has been achieved and the job is thoroughly understood. Training records are then countersigned and filed. Certain tasks require a minimum number of training hours. Training hours are tracked on forms that are signed by the employee and supervisor and kept with the task card training record. Worker competence is also reviewed through task observation. This is undertaken by the supervisor who is required to conduct a minimum of four task observations a month. The Superintendents and General Foreman are also each required to undertake a task observation once a month. All cyanide training records are maintained for the full length of an individual’s employment with RMGC.
8.3 Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.

The operation is:  ■ in full compliance
                  □ in substantial compliance
                  □ not in compliance…with Standard of Practice 8.3.

Describe the basis for the Finding/Deficiencies Identified:

Everyone who enters the site has to complete Site Hazard training which includes emergency alarm and notification procedures. All workers assigned to areas where cyanide is used as well as members of the emergency response team are provided Cyanide Safety training that addresses properties and characteristics of cyanide; personal hygiene; precautions and safety rules; effects of HCN; symptoms of cyanide poisoning, and first aid and treatment; and detoxification and cleanup of spills in the event of a cyanide release. TransWood drivers also complete RMGC Site Hazard training before being allowed onto the site.

In addition to being Mine Response Team/Emergency Response Team members, several of the shift workers in the mill and process areas are also members of the Round Mountain Fire Department HAZMAT Team. They are trained in HAZMAT response, decontamination procedures and use of self-contained breathing apparatus (SCBA). Emergency response team members undertake monthly emergency response training. In addition, multifaceted cyanide emergency response drills are held every few years (the last was in April 2010). These drills test cyanide release response and involve site personnel, emergency response team and off-site responders.

The Safety department also conducts annual Supervisor Refresher Training that includes instruction on effective training methods; basic loss control considerations; emergency response roles and responsibilities as set out in the ERM; and responsibilities, inspection methods, accident prevention, and hazard recognition.

Through the APELL coordinating group Nye County Emergency Services, Round Mountain Fire Department, and the Nye County Sheriff are involved with emergency planning including emergencies that could occur at the mine. The local agencies that would be involved in a response are the Round Mountain Fire Department and HAZMAT Response Team and the Smokey Valley Ambulance service. The fire department is made up largely of emergency response team members from RMGC. The fire department is therefore very familiar with the mine site layout and the potential hazards, as well as RMGC’s ERM. The Fire Department and County Ambulance participated in the 2008 and 2010 mock drills. In the event of an incident that requires medical treatment, the
RMGC clinic would provide initial treatment. RMGC has an MOU with Nye Regional Medical Center in Tonopah to ensure that the Center maintains a capability to handle medical cases involving cyanide.

Records available for the October 2008 and April 2010 emergency drills provide evidence that debriefing and post drill reviews were undertaken and a number of suggestions for improvement were documented. The 2010 mock drill record also included a detailed critique from CYANCO, who was an observer during that drill. No documentation was however available to demonstrate that recommended actions for improvement had been implemented. To resolve this issue RMGC developed a procedure to be used for critiquing future emergency responses and mock drills that provides guidance on critiquing, reporting and tracking to completion any actions for improvement in emergency response identified during the critique. Objective evidence of completion of this procedure was provided prior to the submittal date of this report.

All cyanide training records are maintained for the full length of an individual’s employment with RMGC. New hire and refresher training course materials are filed along with associated attendance sheets and test results. Task card training is documented by copies of the actual task card, countersigned and dated by the trainee and trainer/supervisor. Attendance records and correspondence are also retained that demonstrate that local non-RMGC emergency personnel have participated in cyanide hazard awareness and emergency response training.

9. DIALOGUE Engage in public consultation and disclosure.

Standards of Practice

9.1 Provide stakeholders the opportunity to communicate issues of concern.

The operation is: ■ in full compliance □ in substantial compliance □ not in compliance…with Standard of Practice 9.1.

Describe the basis for the Finding/Deficiencies Identified:

RMGC has adopted Kinross’s Health and Safety Policy, which includes a commitment to “...continuously review and share health and safety results, industry practices and technology to seek further improvement and promote best practices” and Kinross’s Corporate Environmental Policy which contains similar language, including a commitment to “Communicate openly with…the public and stakeholders on environmental issues.” Responsibilities for coordinating communications with the local community and other external stakeholders who may express concerns or interests in the
management of cyanide continue to reside primarily with the Executive Secretary, as was the case in the December 2006 audit. No formal records are retained, although RMGC reports that only one external stakeholder request for information involving the use of cyanide has been received since the December 2006 audit.

The mine also has continued a very open policy of providing guided tours to a wide variety of individuals, groups, and organizations (e.g., politicians, school groups, family members of mine workers, tribal organizations, visiting staff from other mines). Over the last 3 years, over 1000 visitors a year have received tours.

9.2 Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

The operation is: ■ in full compliance
☐ in substantial compliance
☐ not in compliance…with Standard of Practice 9.2.

Describe the basis for the Finding/Deficiencies Identified:

As previously noted, RMGC has a very open policy regarding site tours involving local residents and a wide range of other stakeholders. In addition, most of the members of the communities of Hadley and Round Mountain are RMGC employees or their immediate families, and, as observed in the December 2006 audit, information disseminated to the workforce via awareness training and other means is likely to be further communicated to the larger community. RMGC is an active participant in virtually all community functions and meetings, which continue to be coordinated through the function of the Executive Secretary, and maintain regular contacts with community councils, community emergency response (HAZMAT) teams, and law enforcement officials.

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

The operation is: ■ in full compliance
☐ in substantial compliance
☐ not in compliance…with Standard of Practice 9.3.

Describe the basis for the Finding/Deficiencies Identified:

No cyanide exposures involving hospitalization, fatality, or significant health effects have occurred since the December 2006 audit, nor have they occurred in the life of the mine. Similarly, since the life of the mine, there have been no off-site cyanide releases nor any
releases on the mine site that have resulted in a significant adverse effect to the environment. If such an incident were to occur, RMGC’s emergency response reporting protocols would require notification of the appropriate regulatory authorities as well as Kinross and Barrick management, and Kinross’s corporate communications manager would lead the coordination of any public statements. Individual state agencies would make such information public in accordance with their own internal procedures.

RMGC did have one incident in the ADR carbon plant in early 2010 in which first aid was provided to an employee who showed symptoms of exposure to HCN gas. However, as the incident was not considered reportable and did not result in a lost time injury, the publication of exposure information under this section of the ICMC is deemed not to have been required. Objective evidence was provided demonstrating that RMGC made a full internal investigation of operational conditions present at the time of the incident, and determined that some potential for HCN generation did in fact exist in certain operational scenarios. Procedures were immediately updated and affected operations staff advised of proper procedural changes on an interim basis via tailgate safety meetings. Appropriate modifications were then made to the governing task card, and operations staff were re-trained accordingly when it was formally reissued.