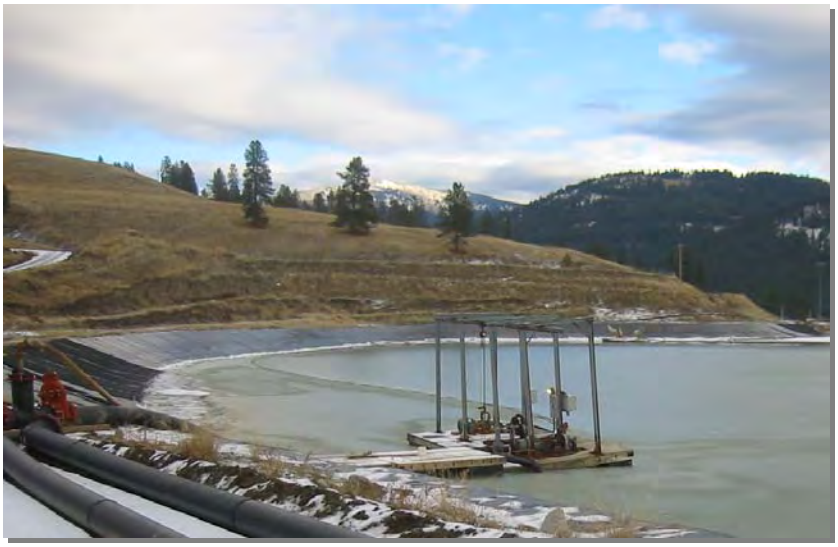
SUMMARY AUDIT REPORT

for the December 2008
International Cyanide Management Code Audit



Prepared for:
Kinross Gold Corporation, Kettle River Operations

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

FINAL
12 June 2009

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SUMMARY AUDIT REPORT

Name of Mine: Kettle River Operations

Name of Mine Owner: Kinross Gold Corporation

Name of Mine Operator: Kinross Gold Corporation, Kettle River Operations

Name of Responsible Manager: Wayne Zigarlick, General Manager (Acting)

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Location detail and description of operation:
Kettle River Operations (KRO) is a wholly owned subsidiary of Kinross Gold Corporation, located in Ferry County, Washington, USA. The KRO mill, mineral extraction plant, and tailings management facility (also sometimes referred to as the Key Mill site) was previously owned by Echo Bay Mining Company, which was purchased by Kinross in January of 2003. At the time of the acquisition, the mill complex was placed on care and maintenance. Kinross restarted operations in December 2003 with the mining of the Emanuel Creek deposit, which was completed in November 2005. The mill was then temporarily shut down. In 2006, Kinross purchased Crown Resources and its wholly-owned Buckhorn gold deposit, approximately 76 kilometers by road from the KRO mill complex. The mill was refurbished and went into production in October, 2008. The mill is currently dedicated to the processing of ore from the Buckhorn underground mine. Mill area facilities include an ore crusher, stockpile, and feed system; two ball mills and a thickener circuit; a conventional carbon-in-leach plant with carbon washing and stripping circuits; an INCO SO_2/air cyanide detoxification circuit; and a secure cyanide storage warehouse and reagent building (in which cyanide briquettes are mixed with water and stored as solution). Detoxified mill tailings are pumped to an adjacent lined rockfill tailings impoundment, constructed with seepage collection and return and process water reclaim systems.

Due to the proximity of the site to the northern border of the US and to a major reservoir, KRO is subject to stringent US Department of Homeland Security (DHS) legal constraints on openly discussing cyanide volumes, transportation arrangements, storage locations, or other management practices in any significant detail. Detail in these areas has therefore been generalized.

SUMMARY AUDIT REPORT
Auditors' Finding

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

with the *International Cyanide Management Code.*

Audit Company: **GeoEngineers, Inc.**
600 Stewart St., Suite 1700
Seattle, Washington 98101
USA

Audit Team Leader: John Lambert
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Names and Signatures of other Auditors

Mark Montoya

Glenn Mills

Date(s) of Audit: December 1 to December 5, 2008

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the *International Cyanide Management Institute* for Code Verification Auditors. I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the *International Cyanide Management Code Verification Protocol for Gold Mine Operations* and using standard and accepted practices for health, safety and environmental audits.

Signed before me at North Vancouver B.C.
by John Lambert on June 12 2009

LORRAINE E. JOHN
Notary Public
#204 1401 Lonsdale Avenue
North Vancouver, B.C.
V7M 2H9

A Notary Public in and for the
Province of British Columbia

Kettle River Operations — June 10, 2009
Name of Mine — Signature of Lead Auditor — Date

SUMMARY AUDIT REPORT

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

Standard of Practice

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

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

Discuss the basis for this Finding/Deficiencies Identified:

Review of purchasing department records and discussions with KRO staff indicate that KRO purchases sodium cyanide reagent exclusively from E.I. DuPont de Nemours and Company (DuPont); all cyanide is manufactured in DuPont's Memphis, TN production plant. KRO has purchased initial quantities of cyanide from DuPont via a purchase order process; a master service contract is under development. Review of current postings on the International Cyanide Management Institute (ICMI) website confirmed that DuPont is an ICMC-certified producer. The conditions appended to both recent POs and the draft contract include language emphasizing that both buyer and seller shall remain signatories to the ICMC and shall achieve and maintain compliance with ICMC requirements.

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:

Review of recent POs and the draft master service contract indicates that DuPont is contractually responsible for all transport and all in-transit spill response actions, except that KRO personnel are responsible for unloading and storing cyanide in a secure facility at the mine site pending mixing and use.

DuPont has subcontracted to Canadian National Railway to transfer the cyanide (loaded into hopper cars) from the production facility to a railway transfer yard (also in Memphis). The cars are then transferred to Union Pacific Railroad, and routed to a DuPont distribution support facility in Carlin, Nevada. The cyanide is transferred from hopper cars to DuPont-owned steel "Flo-Bins." The Flo-Bins are subsequently loaded onto flatbed trailers and trucked to KRO by one of two transportation contractors: Sentinel Transportation, LLC (Sentinel), the primary subcontractor, and RSB Logistics, Inc. (RSB) as backup. The transportation contractor delivers cyanide to an unloading area at the mill sited adjacent to a secure open-front covered storage building dedicated to storage of cyanide and other (chemically compatible) hazardous chemicals. Per the conditions of the draft master service contract with DuPont, KRO takes formal ownership of the cyanide at the point at which the delivery truck is parked at a designated unloading area in the roadway adjacent to KRO's warehouse area.

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:

Review of recent POs and the draft master service contract indicates that DuPont has assumed contractual responsibility for ensuring that all cyanide transportation links involve ICMC-certified firms, or firms who have undergone due-diligence verification or ICMC-equivalent third-party audits; implementation of this contractual requirement was confirmed by review of ICMC audit, due diligence audit, and ICMC-equivalent non-certification audit documentation. DuPont has provided KRO copies of audit reports for each firm in the supply chain, as follows:

- DuPont Sodium Cyanide Operations (Memphis, TN plant + Carlin distribution facilities); March 2006 ICMC certification audit;

- Canadian National Railway (shipment from production plant to Memphis rail transfer yard); May 2007 due diligence audit;

- Union Pacific Railroad (shipment from Memphis rail transfer yard to Carlin, NV terminal); May 2007 due diligence audit;

- Sentinel Transport, LLC (primary truck transporter; Carlin terminal to KRO mill); August 2006 ICMC certification audit; and

- RSB Logistic (backup truck transporter; Carlin terminal to KRO mill); independent third-party audit equivalent to ICMC audit, conducted in September 2007 by an approved ICMI auditor. This audit concluded that the transporter's practices were in full compliance with ICMC requirements.

All participating lead and technical auditors were listed on the ICMI's approved auditor list as of the completion date of this report. Review of shipping paperwork indicates that DuPont maintains custody from the production facility to their Carlin, NV distribution terminal. Sentinel or RSB Logistics assumes custody in Carlin and relinquishes custody to KRO warehousing personnel within the security boundary of the KRO mill complex.

3. HANDLING AND STORAGE **Protect workers and the environment during cyanide handling and storage.**
Standards of Practice

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

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

Discuss the basis for this Finding/Deficiencies Identified:

The mill facility was originally built in 1988; no original QA/QC data were available. However, KRO commissioned a licensed engineering firm to provide the services of a professional engineer licensed in the state of Washington to confirm that the unloading,

storage, and mixing facilities were constructed in accordance with sound and accepted engineering practices. A series of onsite engineering reviews were conducted that satisfactorily address all cyanide management facilities The audit team verified that all corrective actions requested by the engineering firm had been satisfactorily completed.

All cyanide is delivered in solid briquette form, in sealed, heavy-wall carbon steel Flo-Bins, and stored in a securely gated open-front corrugated steel building with a bermed concrete floor. Contract conditions require immediate notification of DuPont and spill response action if any spillage is noted in the as-received Flo-Bins. The storage facility is locked, protected by razor wire, and located within the warehouse security fence, which is itself is located within the overall fenced security boundary of the facility. Approximately half of the facility is set aside for cyanide Flo-Bins; the other portion of the facility is used to store copper sulfate (a chemically compatible compound used in the cyanide detoxification process). No acids, explosives, or strong oxidizers are stored in or near the building, and warehousing staff have been directed in writing not to store any other chemicals in this facility without consulting the Environmental Department. Empty Flo-Bins were stored outside the building pending return to DuPont. Unless cyanide was to be received in a breached container, there is no potential opportunity for human exposure until the cyanide briquettes are released into the mixing tank. The nearest natural watercourse is downgradient of the mill area, just outside and generally parallel to the southeast side of the permit boundary. A stormwater diversion channel has been installed upgradient of the mill area and tailings facility.

The cyanide mixing and storage tank is located in a dedicated reagent building adjacent to the thickener and carbon in leach (CIL) tank impoundment. The reagent building has a coated concrete floor and the cyanide mixing and storage tanks have a separate concrete bermed impoundment, with a sump that reports to the cyanidation circuit. The mixing tank is fitted with water level indicators and high-level alarm. Precise volumes of water, sodium hydroxide (for pH control), and anti-scalant are introduced to the tank prior to adding cyanide briquettes from a Flo-Bin set on top of the mixing tank. A trained operator and the shift supervisor are required to be present for all mixing operations. The floor is sloped so that if the sump were blocked and the mixing/storage tank somehow breached, any solution overflow would report to another sump that is connected to the CIL impoundment via a below-grad pipeline exiting in the wall of the upper bench in the CIL secondary containment area. Documentation was provided that demonstrating pipe-in-pipe secondary containment and leak detection measures for the below-grade pipeline.

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 in briquette form in sealed, serial-numbered heavy-gauge carbon steel Flo-Bins that are owned by DuPont and are delivered on flat-bed trucks. The Flo-Bins are designed for handling by forklift or (in the mixing area only) a forked steel lifting cradle and a bridge crane with jog control functions. Operating procedures (SOPs) prohibit the stacking of full or empty Flo-Bins more than two high. Empty bins are segregated in a holding area adjacent to the cyanide storage facility pending return to DuPont's Carlin NV facilities, and are not permitted to be used for other purposes. At DuPont's specific direction, bin tops are to remain sealed while in KRO custody. Other SOPs apply specifically to the mixing operation, and require that slide valves be closed and pinned in position by KRO staff after the briquettes have been released into the mixing tank. After release of briquettes, KRO personnel are only permitted to rinse external surfaces of the Flo-Bin in the area of the slide valve. The Flo-Bin as well as the top of the mixing tank and mixing deck are then cleaned with a water spray, and the mixing tank covered pending the next mixing activity. Rinse water is captured in a sump beneath the mixing tank and routed to the cyanidation process.

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:

KRO has developed written management and operating plans and procedures for safe operation of the cyanide facilities, which include:

- A secure Cyanide storage warehouse, where steel Flo-Bins are kept pending mixing;

- Reagent building, where sodium cyanide in briquette form is mixed and stored in solution form;
- Grinding mill;
- Thickener circuit;
- Carbon-in-leach (CIL) plant;
- Carbon washing and stripping circuit;
- Cyanide detoxification circuit;
- Tailings Storage Facility (TSF);
- Tailings distribution and reclaim system; and
- Related tanks, containments, pumps, pipelines and stormwater diversion structures.

KRO is currently operating a reclaim barge on the TSF; they have also constructed an external reclaim pond downgradient of the tailings impoundment. Although not commissioned at the time of the onsite audit, KRO personnel indicated that the external pond commissioning would most likely occur during the summer of 2009.

Operating plans and procedures reside on a dedicated intranet portal, which is password-protected and can be accessed from any location via the internet. The following documents comprise the primary procedures related to operation of the cyanide facilities:

- Operation and Maintenance Manual for the Mill and Tailings Impoundment;
- Kettle River Tailings Dam, Phase V, Operation and Maintenance Plan;
- Kettle River Tailings Dam, Phase V, Emergency Action Plan;
- Operating Instructions for the INCO SO_2/Air Cyanide Destruction Process;
- Sulfur Dioxide ($S0_2$) Dosage Spreadsheet for INCO Process;
- KRO Emergency Response Plan;
- KRO Integrated Contingency Plan;
- KRO Monitoring Plan;
- KRO Stormwater Pollution Prevention Plan;
- KRO Waste Disposal & Spill Reporting Procedures;
- Water Balance SOP;
- Mixing Cyanide SOP;
- Tailings Pond Deposition SOP;
- CIL Sump Solution SOP;
- Line Entry Permit SOP;
- Process Water Lines Leak Detection Monitoring SOP; and
- Process Water Lines “A” and “B” Annual Pressure Test Procedure SOP.

KRO's primary regulatory requirements consist of a Washington State Waste Discharge Permit and Dam Construction Permit. Under the terms of the Discharge Permit, KRO is not authorized to discharge wastewater from the TSF to either surface or ground waters, and the concentration of weak acid dissociable (WAD) cyanide in the TSF cannot exceed a monthly average value of 40 milligrams per liter (mg/l). The permit also requires that KRO keep an approved operation and maintenance manual at the facility, which contains the treatment plant process control monitoring schedule, emergency procedures for plant shutdown and cleanup in upset conditions, and plant maintenance procedures.

The Dam Construction Permit requires that the TSF embankment be designed to contain the 100,000-year, 72-hour storm event according to its rating as a High Hazard Dam. The current storage requirement to contain the 100,000-year storm event is 156 acre-feet (50.8 million gallons) plus one foot of freeboard.

The design reports, and operation and maintenance (O&M) manuals provide the basis and procedures for operating the facilities within these parameters, including the elements of monitoring, inspection and maintenance. The Tailings Dam O&M Plan lists hydraulic elements for controlling inflow to or outflow from the impoundment, the rules and procedures for controlling the reservoir levels, the items requiring periodic maintenance and the procedures for performing maintenance, instrumentation monitoring requirements, and inspection procedures. The O&M Plan for the Mill and Tailings Impoundment addresses the operations and maintenance procedures relating to the tailings impoundment containment facilities, reagent storage and use, cyanide neutralization process, water balance, tailings and reclaim transport, monitoring the impoundment underdrain system, and upset conditions. The KRO Monitoring Plan and contingency plans supplement these documents to ensure compliance and detection and corrective action for any unplanned release of cyanide solutions outside designated containment areas. KRO has also developed and implemented additional SOPs for cyanide-related tasks, which collectively describe standard practices for the safe and environmentally sound operation of cyanide facilities.

The Water Balance SOP, the O&M plans, and the Monitoring Plan provide the operating procedures for maintaining adequate freeboard in the tailings impoundment, the monitoring procedures to ensure WAD cyanide levels in the impoundment do not exceed 40 mg/l, and the periodic inspection and maintenance procedures for the facilities.

KRO operators perform documentation daily (each shift) inspections of the TSF. Among other items, these inspections record the condition of the synthetic liner, tailings distribution and reclaim pipelines, valves, pumps, the available freeboard in the impoundment and the flowrate from the underdrain system. KRO also performs documented monthly inspections of the tailings embankment. An outside engineering firm performs an annual review of the facility; the most recent review encompassed the

reservoir data, condition of the dam, decant structures, underdrain collection system and requirements for ongoing monitoring. Additionally, the KRO mill supervisor and/or operators perform general monthly inspections and the Mill Manager, General Manager and EHS Manager perform documented general quarterly inspections of the onsite facilities. The Maintenance Department also performs weekly walk-through inspections of the mill and process facilities, and during each shift, operators perform documented preventive maintenance (PM) inspections of the process facilities.

KRO uses a commercial software package to schedule and track preventative maintenance activities; other software is used to establish and track maintenance work orders. Weekly, tri-annual, semi-annual and annual preventative maintenance records were reviewed for critical cyanide equipment such as pumps, tanks, HCN monitors, pH probes and the emergency generator. PM procedures for tanks include annual ultrasonic thickness testing.

KRO has established an SOP which sets guidelines for management of change and for conducting pre-startup safety reviews of new and modified processes. This procedure is designed to ensure that any chemical, equipment, facility, procedure, process technology, or software changes will not adversely impact safe operation. The primary components of the procedure include:

- Adequately reviewing proposed changes to determine proper management of additional risk;
- Updating all affected documents and programs to reflect the change (e.g., operating procedures, process flow diagrams, maintenance programs);
- Training all employees affected by change; and
- Authorizing requirements for the change.

Use of the change management process was verified in the course of the audit.

Contingency procedures have also been established to address non-standard operating or upset conditions; these include:

- Operation and Maintenance Manual for the Mill and Tailings Impoundment;
- Kettle River Tailings Dam Emergency Action Plan;
- KRO Emergency Response Plan (ERP);
- KRO Integrated Contingency Plan (ICP); and the
- Tailings Pond Deposition SOP.

The O&M Manual for the Mill and Tailings Impoundment provides procedures for upset conditions. The plan states the plant will shut down immediately if there is any risk of violating permitted limits in the TSF. Any spill involving process materials outside containment will prompt immediate shutdown, which stays in effect until the situation can be remedied. The Emergency Action Plan (EAP) defines responsibilities and provides procedures designed to identify unusual and unlikely conditions that may endanger the dam, initiate remedial actions to prevent or minimize the downstream impacts of a dam failure, and initiate emergency actions to warn downstream residents of impending or actual failure of the dam. The ERP provides emergency procedures for activating and implementing a coordinated response in the event of a cyanide leak, spill or other release; power outages and pump failures; failure of cyanide treatment, destruction or recovery systems; overtopping of ponds and impoundments in cases of extreme runoff; releases during unloading and mixing; and pipe, valve and tank ruptures.

The ICP provides procedures for hazardous material spill response, tailings dam emergency response related to extreme runoff events, earthquakes, increase in seepage, piping or channeling along underdrain pipe, temporary closure or cessation of operations, and any other condition that poses a threat to the structural integrity of the embankment.

The Tailings Deposition SOP provides guidance to operators performing daily inspections of the TSF to notify the Senior Mill Foreman for corrective action if channeling, irregular deposition or freeboard problems are observed.

KRO also performs daily visual inspections of secondary containment areas for their overall condition including presence of fluids. Observations are recorded on the Mill Daily Operations Inspection Sheet. Any drains within in secondary containment areas are linked to other containments and do not allow releases to the environment. The TSF does not have a leak detection system and there are no leach pads or active solution ponds at the site. The KRO Maintenance Department also performs weekly walk-through visual inspections of the mill and process facilities and inspects pipelines, pumps and valves for signs of corrosion and leakage. Weekly PM actions are performed to include inspections of these facility components. Additionally, mill operators perform daily inspections (each shift) of the pipelines, pumps, and valves at the TSF.

Work orders are submitted to the maintenance department if an issue is identified requiring corrective action. Each work order documents the person originating the repair, the date the work order was requested, the nature and date of corrective actions and the work order status. Work orders are entered into the maintenance action tracking system and are retained through completion.

KRO has a diesel generator to provide power to critical process facilities in the event the primary line power is interrupted. In the event of a power failure, the milling circuit

ceases and water inputs to the mill stop. Pumping of tailings upgradient from the mill to the TSF also ceases; therefore, no additional tailings would enter the TSF. Monthly and semi-annual PM actions are performed on the emergency generator, which is also operationally tested as part of the monthly PM.

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:

KRO has completed a metallurgical review to estimate sodium cyanide consumption for different ore zones mined at its Buckhorn Mountain Project. Results of the study set the sodium cyanide addition rate used in the CIL process. Interviews with process personnel verified that the cyanide concentration in the last tank in the CIL circuit is monitored to regulate the optimum cyanide addition rate. The objective is to minimize the amount of cyanide destruction required in the cyanide detoxification circuit. KRO monitors the cyanide concentration in the last CIL tank every two hours and records these concentration levels on the Mill Solution Circuit Operator Log.

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:

KRO has developed a comprehensive water balance model, using Microsoft Excel software, which tracks water flow throughout the engineered water management facilities, including the mill complex and TSF. The model incorporates collected site-wide data centering on the inputs and outputs of the TSF, and calculates the water elevation and volume of the TSF on a monthly basis. The TSF is a zero-discharge, lined facility; therefore, evaporation is the only water loss component.

The Senior Mill Foreman compiles the collected data at the end of each calendar month and updates the model by replacing predicted values with the actual values for that month. Data collected and compiled each month include:

- Water surface elevation of the TSF;
- Meteorological data;
- Water volume captured by the underdrain system;
- Water volume hauled to the TSF from KRO mine operations;
- Water volume from site drainage pumped to the TSF;
- Ore moisture content and mill production rate;
- Makeup (freshwater) added to the process from water supply wells; and
- Water volume in the TSF based on an annual bathymetric survey.

The monthly water balance report presents a comparison between the planned (predicted) results and the actual (real time) results for that month. The monthly water balance is posted on the intranet and is used for water management decisions. Kinross Environment, Health and Safety (EHS) has a company-wide policy to manage the water balance at each operation, such that the variance between planned and actual results is within 30 percent. Kinross corporate reviews the results on a quarterly basis.

Although the water balance model uses monthly averages for meteorological data, the TSF is operated such that it maintains adequate capacity to contain inflow from the 100,000-year, 72-hour storm event plus one foot of freeboard. The KRO process circuit functions as a closed circuit with zero discharge to surface water or groundwater. Prior to delivering tailings to the TSF, KRO treats the tailings slurry with sulfur dioxide and air (INCO Process) to oxidize residual cyanide to an inert cyanate compound and meet the target concentration of 40 mg/l WAD cyanide. The water balance model considers the rate at which tailings are applied to the TSF (N.B. - KRO does not have any heap leach facilities). The water surface elevation of the TSF is kept a minimum of 3.3 feet below the embankment crest elevation to provide 156 acre-feet (50.8 million gallons) capacity for the storm event and one foot of freeboard above the storm level. TSF water level elevation is checked twice daily.

To establish the model, KRO used precipitation data obtained from the National Oceanic and Atmospheric Administration (NOAA) for the period 1948 through 2005. Beginning in 2003, KRO began updating the model on a monthly basis with meteorological data collected from an onsite station located on the roof of the administration building, which is within 1,000 feet of the TSF. The model is updated using monthly averages.

Stormwater diversion structures along the upgradient side of the TSF serve to intercept and convey stormwater around the facility. The surface water diversions are designed to convey the peak discharge from the 100-year, 24-hour storm event while providing 0.5 feet of freeboard. Stormwater collected at the mill site is channeled to a lined sump and pumped to the TSF. The water balance model accounts for this water using the sump

pump capacity and the number of hours it operates each month. Aside from the mill site drainage, the water balance model accounts for precipitation falling directly over the impoundment area (65 acres).

The model does not specifically consider the effects of potential freezing and thawing conditions on the accumulation of precipitation within the facility and the upgradient watershed. However, stormwater diversion structures along the upgradient side of the TSF serve to intercept and convey surface runoff around the facility. Additionally, adequate storage capacity is maintained in the TSF to contain the 100,000-year storm event plus one foot of freeboard. The TSF is lined with a geomembrane and functions as a zero-discharge facility. The underdrain system serves to intercept shallow groundwater and any seepage from the impoundment. For purposes of the water balance model, all water collected by the underdrain system is pumped back to the TSF. Therefore, evaporation is the only water loss accounted for in the model.

The model does not consider the effects of potential power outages or pump and other equipment failures. However, KRO has a diesel-powered generator to provide power to the critical process facilities in the event the primary line power is interrupted. In the event of a power failure, the milling circuit ceases and water inputs to the mill stop. Pumping of tailings upgradient from the mill to the TSF also ceases; therefore, no additional tailings enter the TSF.

No other aspects of the facility in addition to those discussed previously are considered in the model. Nonetheless, the calculated capacity required for the inflow volume from the 100,000-year, 72-hour event accounts for the portion of runoff not controlled by the stormwater diversions upgradient to the TSF. Since the diversions are sized to convey the peak discharge from the 100-year, 24-hour storm event, a portion of runoff from the upgradient tributary basins contributes to the required volume (156 acre-feet).

KRO operators perform daily inspections (each shift) of the TSF. Among other factors, these inspections record the condition of upgradient diversion structures, the synthetic liner, tailings distribution and reclaim pipelines, valves, pumps, the available freeboard in the impoundment and the flowrate from the underdrain system. The Tailings Deposition SOP provides guidance to operators performing daily inspections of the TSF to notify the Senior Mill Foreman for the development of a corrective action plan if channeling, irregular deposition or freeboard problems are observed.

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 TSF is the only facility at the KRO Key Mill site where open solutions are stored. The operation does not have other active solution ponds, open solution channels or sumps. Prior to delivering tailings to the TSF, KRO treats the tailings slurry with sulfur dioxide and air (INCO Process) to oxidize residual cyanide to an inert cyanate compound and meet the regulatory concentration of 40 mg/l WAD cyanide. Nonetheless, a chain link fence topped with barbed wire surrounds the TSF to restrict wildlife access. KRO checks the fence gates during the daily inspections (each shift) and inspects the perimeter fence annually.

WAD cyanide levels in the TSF decant pond are typically well below the monthly average value of 40 mg/l required by the operation's State Waste Discharge Permit. WAD cyanide concentrations measured at the pond average 7 mg/l and concentrations of the tailings slurry entering the TSF typically range between 6 to 10 mg/l. The Wildlife Reporting procedure states that WAD cyanide concentrations in the tailings slurry shall be below 15 mg/l on a daily average. Samples are collected at the TSF pond two times during the 4-day milling week, and sent to a certified lab for WAD cyanide analysis.

During the onsite verification audit, quarterly water quality monitoring reports were reviewed for the first three quarters of 2008. The WAD cyanide levels in the TSF were all below the detection limit (<0.01 mg/l). However, the mill and CIL plant were not operating between November 13, 2005 and September 30, 2008. The operation was restarted on October 1, 2008. Biweekly laboratory results for samples collected in October and November 2008 were also reviewed. These results showed WAD cyanide levels ranging from 0.152 mg/l to 1.28 mg/l. Review of water quality data for the fourth quarter of 2008 demonstrated WAD cyanide levels ranging from <0.01 mg/l to 8.09 mg/l.

KRO operators perform documented daily inspections (each shift) of the TS that include monitoring for the presence of wildlife and the status of gates and fencing surrounding the facility. KRO has not had any cyanide-related wildlife mortalities to date.

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:

The KRO process circuit is designed for zero discharge, including the mill, CIL plant and TSF. Under the terms of the State Waste Discharge Permit, KRO is not authorized to discharge wastewater from the TSF to either surface or ground waters. The TSF is lined with a geomembrane and the underdrain system beneath the liner serves to intercept shallow groundwater and any seepage from the impoundment. The water collected by the underdrain system is treated for nitrates and sulfates at an adjacent bio-treatment plant and then infiltrated back into groundwater via two separate infiltration galleries above groundwater monitoring wells so that the well water quality is influenced. Infiltration at the galleries is on a 2- to 3-week rotation, with only one infiltration gallery used at one time. The underdrain water is also tested for conductivity on a daily basis to detect potential seepage from the TSF. If abnormally high conductivity is detected, the water is pumped back into the TSF. Samples are collected at the underdrain twice a week for WAD cyanide analysis. The North Fork of the San Poil River is 400 feet downgradient of the TSF groundwater monitoring wells, and is the closest surface water. KRO conducts quarterly sampling of the river for Total cyanide at two locations downstream of the mill.

Quarterly surface water quality monitoring reports were also reviewed for 2008. No indirect discharges have caused cyanide concentrations in surface waters to rise above levels protective of the numerical regulatory standard for protection of the beneficial use of aquatic wildlife. WAD cyanide levels at the TSF underdrain and Total cyanide levels at the two river locations were all below the detection limit (<0.01 mg/l) prior to the mill's October 1, 2008 startup. Biweekly laboratory results for samples collected at the underdrain system in October and November 2008 were also reviewed, with WAD cyanide levels below the detection limit. Water quality data for the fourth quarter of 2008 also indicate sample values below the detection limit.

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:

KRO has implemented solution management and seepage control systems to protect groundwater below and downgradient of the operation. Active cyanide facilities site include:

- Cyanide storage warehouse, where steel Flo-Bins are kept;
- Reagent building, where sodium cyanide briquettes are mixed and stored in solution form;
- Grinding mill;
- Thickener circuit;
- CIL plant;
- Carbon washing and stripping circuit;
- Cyanide detoxification circuit;
- TSF;
- Tailings distribution and reclaim system; and
- Related tanks, containments, pumps, pipelines and stormwater diversion structures.

KRO has constructed an external reclaim pond downgradient of the tailings impoundment. Although not commissioned at the time of the onsite audit, the pond is likely to enter service during the summer of 2009.

The TSF is a lined, zero-discharge facility. It has been constructed in four stages to date, using both conventional downstream upstream construction methods. Phase I was lined with 40-mil (on horizontal surfaces) and 60-mil (on sloped surfaces) very low-density polyethylene liner (VLDPE). Beginning with the addition of a second cell in 1993 (Phase II), a composite liner system comprised of 40-mil and 60-mil linear low-density polyethylene (LLDPE) liner overlying a geocomposite clay liner (GCL) has been used. The entire liner system is underlain by an 18-inch thick gravel underdrain system to collect groundwater and to act as a seepage detection and collection system. The water collected by the underdrain system is treated for nitrates and sulfates at an adjacent bio-treatment plant and then infiltrated back into groundwater via two separate infiltration galleries as previously noted. Infiltration between the galleries is on a 2- to 3-week rotation, with only one gallery used at one time. Underdrain water is also tested for conductivity daily to detect the presence of seepage from the TSF. If abnormally high conductivity is detected, the water is pumped back into the TSF. Additionally, KRO collects samples at the underdrain two times each week a for WAD cyanide analysis. As previously noted, sampling results since the October 2008 startup have been below detection limits.

The most recent expansion to the TSF is a 12-foot upstream (Phase IV) raise, completed in 2001. This expansion increased the crest elevation to 3,257 feet. Currently, the TSF operating water level requirement is 3.3 feet below the embankment crest to provide adequate capacity for the calculated runoff from a 100,000-year, 72-hour storm event plus one foot of freeboard, consistent with applicable dam safety guidelines. The tailings distribution and reclaim pipelines are "pipe-in-pipe" systems to provide secondary containment. All other process facilities are located within concrete secondary containments.

The Washington Administrative Code for groundwater quality (WAC 173-200) does not explicitly list a numeric standard for cyanide in groundwater. Nonetheless, the Washington State Department of Ecology applies a supplemental document that references WAC 173-200 for the regulation of groundwater quality and establishes the numeric standard for cyanide in groundwater as 0.20 mg/l (measured as Free cyanide). All groundwater is protected to the established beneficial use of Drinking Water.

Under the operation's State Waste Discharge Permit, the groundwater compliance points at the mill site are a series of three monitoring wells, and under the permit, the required groundwater monitoring parameters at these wells do not include cyanide. Groundwater monitoring data for 2008 were reviewed; all results reported for Total cyanide during this period were below the detection limit of 0.01 mg/l. It is important to note that the mill and CIL plant were not operating between November 13, 2005 and September 30, 2008. The operation was restarted on October 1, 2008.Not applicable, as KRO does not use mill tailings as underground backfill.

Seepage has not caused cyanide concentrations in groundwater to rise above levels protective of beneficial use and no remedial activity is currently required.

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:

KRO has implemented spill prevention and containment measures for all cyanide mixing, storage and process solution tanks. The cyanide mix tank, storage tank and tailings pump box (tank) are located in the Reagent Building and are set on concrete foundation pads.

The building has concrete stem walls and coated concrete floors. Additionally, 8-inch concrete curbs divide the floor area into individual containments for different reagent tanks within the building. The cyanide mix tank sets directly above the storage tank within a common containment with a dedicated sump, which automatically pumps any collected solution to the tailings pump box. A similarly arranged set of sodium hydroxide tanks shares this curbed containment area. The tailings pump box sets within a separate curbed containment area with a dedicated sump, which returns collected solution to the tank. The two containment areas are hydraulically linked, with overflow from the cyanide storage tank containment flowing into the tailings pump box containment. Additionally, the tailings pump box sump has an overflow pipe, which runs beneath the building floor and discharges to the lower containment area for the carbon-in-leach (CIL) tanks.

The pre-aeration tank, two leach tanks and six CIL tanks are set on concrete foundation pads within a large concrete containment divided into upper and lower areas. A sump pump in the upper level containment area delivers collected solution back into the pre-aeration tank. A sump pump in the lower level containment area pumps process solution spills to CIL tank 1 and tailings slurry spills to the cyanide detoxification circuit. The upper and lower containments are hydraulically linked with overflow from the upper level flowing into the lower level.

The tailings reclaim tank is located outdoors between the TSF and Reagent Building and is set on a concrete foundation pad within a dedicated secondary concrete containment. The tank temporarily stores decant water pumped (reclaimed) from the TSF. Water from the tailings reclaim tank is pumped (via a pump house) to the process water storage tank located in the MCC Thickener Building, which feeds the milling process circuits in the Mill Building. The tailings reclaim tank containment has a sump with a drain that conveys collected solution and precipitation, via gravity flow in a buried pipeline, to the lower containment area provided for the CIL circuit. A floor drain in the pump house also ties into this drain line.

Additional process tanks include two thickener tanks, one barren and one pregnant solution tank, and the process water storage tank mentioned above. The thickener tanks are located outside, adjacent to and on the north side of the CIL area, and are supported by steel structures, which elevate the tanks above a concrete floor surrounded by containment concrete walls on three sides. The pregnant and barren solution tanks are located within the Mill Building, and the process water storage tank is located within the MCC Thickener Building, which is situated near the northeast corner of the CIL area. The concrete containment for the thickener tanks (concrete slab and bund walls) is open on one side (south side) to the CIL containment system. The pregnant and barren solution tanks, which operate in tandem, are located on elevated concrete pad foundations within a concrete containment curb inside the Mill Building. The MCC Thickener

Building floor, which is concrete, and the six-inch concrete curb along the perimeter of the floor slab provide containment for the process water storage tank. This containment is hydraulically linked to the CIL containment area by a cutout through the concrete perimeter curb.

Concrete secondary containment areas are provided for the cyanide mixing, storage and process tanks. The containments are hydraulically linked to provide in excess of the required 110 percent containment volume for the largest tank within the linked secondary containment area. This finding is based on results of the engineering inspections of the containments performed in January 2006, October 2008 and between January and April 2009 by a licensed professional engineer. Containments have sumps with dedicated pumps to return collected solutions back into the process circuit. The containments are constructed of cast-in-place reinforced concrete.

KRO has dedicated pumps within collection sumps in the containment areas to remove cyanide solution and return it to the process circuits. The operation has also developed written procedures for pumping solution collected in the CIL secondary containment, which is the most downgradient containment for all the hydraulically-linked concrete containments. The procedures are provided in the following Standard Operating Practice (SOP) documents:

- CIL Sump Solution;
- CIL Sump Pump Storage; and
- CIL Sump Operation Startup and Shutdown.

KRO has constructed all cyanide process pipelines with spill prevention and containment measures to collect leaks and prevent releases. Single-walled pipelines are located within concrete containment or are above ground within pipe sleeves where they cross outside of concrete secondary containment areas. The tailings delivery and reclaim pipelines between the mill complex and the Tailings Storage Facility (TSF) are pipe-in-pipe systems. Pipe-in-pipe systems are also used for other pipelines outside concrete containment.

The field inspection conducted during this onsite verification audit identified three pipelines that are buried or extend beneath the process building floors. These include:

- The buried HDPE pipeline extending from the tailings reclaim pump house to the MCC Thickener Building and from the MCC Thickener Building to the Mill Building;

- The buried drainpipe connecting the tailings reclaim tank containment sump to the CIL containment sump; and

- The drainpipe connecting the tailings pump box containment sump to the CIL containment sump, which extends beneath the concrete floors in the Reagent Building and the upper level CIL containment.

These buried and below-grade pipelines are pipe-in-pipe systems, which provide a method for the detection and removal of any leakage from the primary pipe.

KRO uses steel and HDPE primary containment pipelines for conveyance of cyanide solutions and slurries. Cyanide tanks are 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:

KRO has implemented Quality Assurance and Quality Control (QA/QC) programs during construction of all new cyanide facilities. Comprehensive QA/QC documentation for the TSF was available for review during the onsite audit, and adequately covers all aspects of the facility, including earthworks, underdrain system, geosynthetic liner installation and testing. Because original QA/QC records for all other pre-existing active cyanide facilities could not be located, KRO commissioned an outside engineering firm (licensed professional engineer) to perform field inspections of these facilities in lieu of trying to resurrect the original QA/QC documentation.

The field inspection and construction reports provided by the outside engineering firm are inclusive of all the active cyanide facilities with the exception of the TSF, for which KRO provided the original QA/QC documentation. These reports not only document the findings of the inspections, but also provide evidence that KRO has implemented all of the recommended corrective actions resulting from the inspections. The reports generally state that KRO has performed all recommended corrective actions to acceptable standards, and subject to limitations of the inspection, it appears the facilities inspected

are constructed and operated in a manner consistent with the prevailing standards of care and practice as outlined in ICMC as written by the ICMI, dated August 2008.

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

The operation is: ■ in full compliance
□ in substantial compliance
□ not in compliance…with Standard of Practice 4.9.

Describe the basis for the Finding/Deficiencies Identified:

KRO has prepared and implemented written standard procedures for monitoring activities to evaluate the effects of cyanide use on wildlife, surface water and groundwater quality. The standard procedures for monitoring surface water and groundwater are provided in the KRO Monitoring Plan, which was developed by a former Senior Environmental Engineer and has been accepted by the responsible State agency. Wildlife monitoring is integrated into the daily inspections performed at the TSF. Wildlife observances, incidents, and mortalities are documented on a form which provides internal and external notification procedures and documents details incident details including corrective or preventative actions taken. Site-specific protection measures and the requirements for reporting wildlife mortalities to regulatory agencies are also described. KRO has not had any cyanide-related wildlife mortalities to date. Wildlife incident records documented two deer mortalities in 2007, both of which were unrelated to cyanide exposure

The Monitoring Plan also provides monitoring locations and frequencies, water quality profiles for monitoring parameters, monitoring documentation requirements and sampling procedures. The sampling procedures address documentation of field sampling activities as well as sampling methods, preservation techniques, labeling, shipping instructions and chain of custody procedures.

KRO is a zero discharge facility and does not discharge process water. KRO monitors surface water and groundwater quality downgradient of the site to ensure that indirect discharges are not occurring. Quarterly sampling of surface water is conducted at two locations on the San Poil River downstream of the mill facility. These samples are analyzed for Total cyanide. Groundwater is sampled on a quarterly basis for Total cyanide at four monitoring wells located along the downgradient toe of the TSF embankment.

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

Standards of Practice

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

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

Describe the basis for the Finding/Deficiencies Identified:

KRO's State Waste Discharge Permit requires the development, review, and approval of a decommissioning, reclamation, and closure plan that is updated on the same schedule as the permit renewal cycle (i.e., every five years). KRO has an approved decommissioning and closure plan in place that addresses the tailings facility as well as the mill and mineral extraction plant, and that will remain current through the end of July of 2009. KRO's current Asset Retirement Obligation (ARO) documentation and decommissioning, reclamation, and closure plan both include information that describes the general sequence of actions involved in decommissioning the tailings facility, mineral extraction plant, and mill.

As noted in Section 5.1(1), the State Waste Discharge Permit requires review and update of the decommissioning, reclamation, and closure plan on at least a five year cycle; the current plan expires at the end of July 2009. In addition, a current Kinross corporate standard requires that ARO information be updated at least annually or as major process or infrastructures changes may occur; these obligations include specific decommissioning, reclamation, and closure actions. Discussions with Kinross corporate and KRO personnel indicate that latest ARO information will be considered and properly reflected in any updates to the decommissioning, reclamation, and closure plan.

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:

See Section 5.1.3; Kinross has established an ARO estimate based on third-party closure costs and the technical contents of its current decommissioning, reclamation, and closure plan. The estimate is required to be updated at least annually or when significant changes are made to processes or infrastructure.

The State Waste Discharge Permit requires that the decommissioning, reclamation, and closure plan be updated on the same cycle as the permit (i.e., every five years). The ARO is updated on at least an annual basis, in accordance with Kinross directives, as noted in Section 5.2(1), or more often in response to significant facility or operational changes. Any change to the cyanide circuit or tailings impoundment would qualify as a major change.

Kinross has established a performance bond for KRO, in accordance with State Waste Discharge Permit requirements. The bond is in the form of a letter of credit that lists the State of Washington Department of Ecology as recipient and that substantially exceeds the value of the closure costs estimated in the ARO for the specific elements of cyanidation process infrastructure required by the ICMC that are applicable to KRO's operations (i.e., the decommissioning of equipment, removal of residual reagent, and measures for controlling/managing surface or groundwater).
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***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:

KRO has SOPs located on their intranet portal that address mixing, plant operations, entry into confined spaces and equipment decontamination. The cyanide mixing SOP includes pre-work inspections and personal protective equipment (PPE) requirements. Pre-work inspections are also conducted through KRO's "5 Point" program. Where a non-routine work task is required, a Pre-Task Plan or Team Level Risk Assessment is completed. This assessment includes an evaluation of work permit requirements, pre-work inspections, PPE requirements, emergency equipment checks, and hazard

assessments for all cyanide-related tasks. An SOP also establishes guidelines for management of change and for conducting pre-startup safety reviews of new and modified processes. The procedure provides detailed definitions on what constitutes a change (includes chemical, equipment, facilities, procedures, process, technology, software, or any other areas where there is a potential to adversely impact the safe operation of cyanide management and other processes at KRO). It also addresses responsibilities of employees, supervisors, management and Environmental, Health, and Safety (EHS) departments; the procedure for initiating a management of change; and training expectations of employees, contract employees and management in the management of change process. Management of change training is included as part of 40-hour Mine Safety and Health Administration (MSHA) training. Records review indicates that the procedure is being regularly implemented.

Worker input is obtained through worker participation in the 5 Point Safety System, through weekly shift safety meetings, and through EHS suggestion boxes. A quarterly summary of safety conversations from weekly shift meetings is also prepared. A tracking system report is posted on the KRO intranet portal. The system lists potential improvements, the suggesting person, and the status of the improvement (e.g., work order number). KRO has recently expanded this initiative into a formal program by retaining a Continuous Improvement Manager, who works on improvement programs and closely communicates with workers through facilitated meetings seeking their input in evaluating opportunities to improve efficiencies and reduce risk.

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

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

Describe the basis for the Finding/Deficiencies Identified:

The mill manual provides procedures to maintain pH at a target 10.3. Lime is continuously added as required, via an automatic system that is controlled by pH probes and by manual addition of lime at some points, to the pre-aeration, leach and CIL circuits in order maintain the target pH and prevent the generation of cyanide gas. There are pH probes located on the pre-aeration tanks 1 and 2, the leach tank, and the water treatment tank. The monitors are on a monthly maintenance schedule, although more frequent maintenance is undertaken if probe readings do not align with process sample pH analysis results. Field observations of pH probes indicated pH was being maintained at between 10.8 and 11.2. This requirement was verified through discussion with the Senior

Mill Foreman, review of the Mill Operations Manual and SOPs and inspection of pH meters readings and daily process logs.

Fixed Sensadyne monitoring units are located in areas in which HCN exposure is considered a potential concern. The units are set to alarm (visual and audible) at 4.7 ppm and 10 ppm HCN. There is also a site evacuation alarm if HCN exceeds 100 ppm. Continuous HCN readings from these monitors are recorded and are accessible as plots in the mill control room.

In addition to the fixed monitors, portable HCN monitors are also used by workers when working in areas or on tasks where they may be exposed to HCN. Work procedures include requirements for using personal monitors. In addition, pre-work assessments and the 5-point safety program require workers/supervisors to review PPE and other safety requirements prior to undertaking work tasks. All of the monitoring units are on a PM schedule that includes monthly calibration and quarterly maintenance. Calibration records for the fixed and portable monitors are tracked and recorded through the PM Expert maintenance tracking program. Records are maintained indefinitely.

Cyanide warning signs are posted on the reclaim water tank and pipelines, CIL and leach tanks, doors to the mill, as well as on those piping system components and vessels inside the mill likely to have cyanide concentrations above the 0.5 ppm process solution level established by the ICMC. A cyanide warning sign is also posted on the locked entrance gate to the fenced-off TSF area. Cyanide facilities are all designated as "No Smoking" areas. "No drinking/ no eating" signage is prominently posted at entrances to the mill process area. Cyanide warning signage is located on the security fencing at the storage bay, on individual Flo-Bins, on entrances to the mix room and mill, and on the storage and mixing tanks. Process piping is also labeled and/or color coded, and marked with flow direction arrows.

Shower/eye-wash units are located in areas where there is a potential for exposure to cyanide. The units are supplied by a 30 psi regulated potable water supply. There are also a number of eye-wash stations strategically located throughout the site. Showers and eye wash stations are checked and tested daily during each shift, and monthly by KRO Security. The cyanide mixing SOP also requires that shower/eye-wash station operation be checked prior to conducting cyanide mixing operation.

All fire extinguishers in the cyanide use areas are dry chemical ABC extinguishers. Extinguishers are inspected on a monthly basis by Security. In addition, KRO contracts, a specialist company to perform annual checks and maintenance.

Material Safety Data Sheet (MSDS) access is managed through an outside service provider. All employees are trained in the use of the system and can access an MSDS

through the KRO intranet portal or through the provider's webpage. MSDSs can be accessed from computer terminals available at key locations. All MSDSs are provided in English; a hard copy of MSDS for cyanide is posted in the cyanide storage facility.

Accident investigations are controlled primarily through an SOP that provides instruction and guidance to ensure that investigations (including those that involve cyanide) are completed thoroughly. The SOP addresses accidents associated with injuries/illnesses; fires and explosions; property damage; hazardous substance discharges and other incidences. The accident investigation involves completion of a route cause analysis through examination of training records, examination of task procedures, analysis and evaluation of significant causes, and reporting responsibilities.

Investigation reports include checkboxes for whether a SOP exists for the task, and whether the SOP was followed. Investigation reports also include checkboxes to identify whether inadequate program standards and /or inadequate work standards contributed to the accident. Comment areas are also included on the report, so that the investigator can comment on adequacy of SOPs and/or programs.

KRO also maintains an electronic incident reporting and tracking system that is used site wide, for all operational activities, including those in the mill. This system is used to track and communicate management activity in response to an incident. There have been no incidents related to cyanide since the October startup, or in the previous 10 years of mill operation.

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

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

Summarize the basis for this Finding/Deficiencies Identified:

Nine safety shower and eleven eye-wash stations are located in areas where cyanide is mixed and cyanide process solutions are present. Boxes containing mini-refrigerators which maintain the amyl nitrite within the temperature range recommended by the manufacturer are located in four areas of the plant. The boxes are inspected monthly to check temperature and amyl nitrite expiry date. KRO also has two oxygen/resuscitators kits, and all mill workers are equipped with hand-held radios. The condition of the amyl nitrite cabinets, oxygen/resuscitators, as well as the working order of the shower/eye-wash stations are checked each shift during mill daily operations inspections. The Emergency Medical Technicians (EMTs) and Security have authorization to use local

county sheriff's office radio frequencies for direct access to county hospital emergency services if needed.

Emergency Response Plan (ERP) addresses health and emergency information (symptom of cyanide poisoning, first-aid, cyanide leaks and spills). Emergency medical response is also provided in the ICP. All employees are trained in first aid treatment for cyanide exposures. There are three EMTs on staff, including the Health and Safety Coordinator. It is understood that there will be five certified EMTs on staff by early 2009. Annual refresher cyanide awareness training is provided by DuPont. In addition, all employees are training as emergency responders with their level of response capability increasing with their operating grade. All employees are trained in use of monitors, alarm systems, SCBA, emergency kit locations, and amyl nitrite application (although only EMTs are permitted to administer).

The KRO facility is located approximately 6 miles from the local County Hospital. Because of close proximity, no special transportation arrangements are made, and the site calls 911 for emergency service from the County Fire Department/EMS. The safety department and Security have direction emergency radio channel access to the Ferry County Hospital emergency hotline; ambulance response to the site is approximately 15 minutes.

As part of Kinross's APELL (Awareness and Preparedness for Emergency at the Local Level) program, KRO has discussed cyanide response arrangements with the County Hospital, County Fire department/EMS, County and State Police. The County Fire Department/EMS and Hospital have participated in DuPont cyanide training, and participate in emergency response drills involving cyanide. The KRO emergency response contingency plan is distributed to the County hospital, fire department/EMS, police and other stakeholders as part of the APELL program. KRO will participate in Quarterly Emergency Preparedness meetings to discuss and update County Wide Emergency Response programs. These meetings will involve the City Commissioner, County Sheriff, Fire Department, Hospitals and Border Patrol beginning in January 2009.

Mock drills were conducted in 2005 (sabotage/rupture of cyanide storage tank), 2007(mill evacuation. Another drill was conducted in November 2008 involving response to an employee theoretically overcome with HCN while washing the floor of the reagent building with a water hose. This emergency included the potential for reagent escaping from the building, as well as an unplanned fire (defective vaporizer regulator) also occurred during the exercise. The results of the drill were documented, along with several suggestions to improve performance. These were developed into corrective actions which were then implemented.

In addition to mock drills, twelve emergency response personnel also completed crisis media training in 2008

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:

Emergency response procedures and information are primarily located within the ERP, the Local Crisis Management Plan, and the ICP. The ERP provides emergency operating procedures to be followed in the event of any emergency, and includes initial response, first aid, PPE requirements, contact information, emergency response duties and responsibilities, and response steps. The ERP also includes response procedures for cyanide releases and injuries. Where an emergency meets the definition of a major or crisis incident the Local Crisis Management Plan notification and response procedures are used. The ICP is spill specific and addresses response, clean-up and reporting requirements for all spills or releases of hazardous materials, including cyanide.

As part of the development of the risk control procedures set out in the ERP transportation accidents, releases during unloading, releases during fires and explosions, pipe, valve and tank ruptures, overtopping of ponds, power outages and pump failures, uncontrolled seepage, failure of cyanide treatment and failure of tailings impoundments were considered. The plan provides overall response procedures as well as additional responses for specific scenarios including power outages and pump failures; failure of cyanide treatment, destruction or recovery; overtopping of ponds and impoundments; releases during unloading and mixing; pipe, valve and tank ruptures, and offsite releases.

A Dam Breach Inundation Study was conducted in 2007 to reflect the proposed Phase V construction of the tailings facility. Based on this study, KRO developed an Emergency Action Plan to identify unusual and unlikely conditions which my endanger the dam; initiate remedial actions to prevent or minimize the downstream impacts of a dam failure;

and initiate emergency actions to warn downstream residents of impending or actual failure of the dam.

KRO takes title and risk of loss for the cyanide upon completion of delivery by DuPont into the mill complex sodium cyanide storage area. The transporter (and ultimately DuPont) have responsibility for addressing an off-site incident. Incidents involving off-site and/or transportation of cyanide to the KRO facility will be called in to the DuPont Cyanide Hotline. DuPont will then evaluate whether a team of specialists should be sent to the scene. In addition to contacting DuPont, CHEMTREC (the CHEMical TRansportation Emergency Center) can also be contacted.

KRO personnel are available to support emergency responses to offsite incidents that involve shipments of hazardous materials on route to the mill. Technical assistance, disposal options, and media response will be provided by KRO, when practical.

The KRO ERP describes appropriate actions for cyanide spills, including:

- includes initial observer reporting and response procedures;
- communication protocol and emergency response steps;
- first aid procedures and description of cyanide exposure symptoms;
- a mill site evacuation plan in the event of an evacuation alarm; and spill control, reporting and clean-up procedures; and
- specific response actions for various types of emergency situations.

The Local Crisis Management Plan defines team member responsibilities, communication procedures for notifying outside emergency response resources, government agencies, the neighboring community, other stakeholders and the press. In the event of a possible tailings dam failure, specific response actions are detailed in the Emergency Action Plan.

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:

A discussed in Section 6.3 KRO has formalized cyanide response arrangements with the local County Hospital, County Fire department/EMS, and County and State Police. The County Fire Department/EMS and Hospital have participated in DuPont cyanide training,

and participate in emergency response drills involving cyanide. The KRO emergency response plan is distributed to the County Hospital, fire department/EMS, police and other stakeholders as part of the APELL program. KMO will also participate in Quarterly Emergency Preparedness meetings to discuss and update County Wide Emergency Response programs. KRO also participates in and is co-chair of the Citizen Advisory Board (CAB) which has open meetings at least quarterly, enabling public to attend and query activities and concerns related to the KRO operation, including 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:

The ERP designates primary and alternative Crisis Management Team members (including coordinators) with the appropriate authority to implement the plan, including any emergency involving cyanide. The ERP also itemizes duties and responsibilities of emergency response positions.

Annual first aid refresher training is provided by an external trainer. EMTs are required to have quarterly On-going Training and Evaluation Program (OTEP) training by a qualified trainer on a quarterly basis. There are two qualified EMTs at the mill. In addition the Safety Coordinator (located in the administration building) is also an EMT. 24 hour contact information is included in the ERP, along with the specific duties and responsibilities of the Crisis Management Team (CMT) members. An emergency response equipment list is also provided. Emergency response equipment is checked monthly by Security. This includes fire extinguishers, amyl-nitrite storage, spill kits and ERT cabinets. Fire extinguishers are also checked and maintained annually by an external contractor. In addition, each shift, operators check shower/eye wash units, SCBA/oxygen cylinder pressures and the security seal on the amyl nitrite storage cabinet. Security also conducts detailed condition inspections of these items monthly.

The role of outside responders is described in the ERP. KRO has discussed and involved cyanide response arrangements with the local County Hospital, Fire department, and police and conducted emergency response drills with them. KMO will also be participating in Quarterly Emergency Preparedness meetings to discuss and update County Wide Emergency Response programs. KRO also has communications from the County Hospital that acknowledges their preparedness and capability to provide emergency treatment to patients exposed to cyanide.

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:

The ERP provides on site emergency response contact procedures and contact information for both internal and external responders and stakeholders. The ERP also includes contact information for Communication Team members; this team supports the Corporate Crisis Team, site management and personnel involved in responding to an emergency. Duties and responsibilities of a spokesperson and communications coordinator are included, as well as stakeholder notification steps. The plan includes procedures for communicating with the media. Among other responsibilities, the communication spokesperson is the crisis team member designated to communicate with the media. The communications coordinator duties include establishing a media room or location for release of statements and for briefing and preparing the spokesperson for media interviews. Specialist staff members may also be asked to speak with the media depending on the issues.

KRO's Waste Disposal and Spill Reporting Procedures (WDSRP) document provides notification procedures for reportable spills as required by Washington Department of Ecology (WDOE) and the National Response Center. The ICP specifies that the reportable quality for NaCN is 10lbs., and includes specific guidance on reportable quantities for spills originating in mixing/storage, CIL, reclaim, or mill areas to assist operators determine when a spill is reportable.

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 ICP specifically prohibits use of calcium hypochlorite in spill events where cyanide has been released to surface waters. The ICP also includes directions on soil sampling

methodology and frequency, sample management, handling and transport protocols, and methods for chemical analysis. Disposal options for cyanide contaminated soil and liquids are provided in SOPs for waste disposal and spill reporting. Liquids are returned to the process. In the event that an alternate water supply is required as a result of an emergency involving cyanide, KRO has a provision to use bottled water. The ERP designates the Supply and Logistics Coordinator with the responsibility of ensuring the expedited flow of drinking water to the response area, and addresses the arrangement of fresh water delivery. KRO has a list of water suppliers if the supply has to be replenished or supplemented.

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 ERP states that it is to be reviewed annually and updated as required, including a requirement that the ERP be critiqued for deficiencies after all emergency response incidents and annual drills. The ERP had been updated six times during 2008 to accommodate revisions generated during APELL, update of the call-out list, update on potential cyanide scenarios and recommendations that came out of a mock drill critique. Emergency drills were conducted in 2005 (sabotage/rupture of cyanide storage tank), 2007 (mill evacuation) and 2008 (employee overcome with HCN while washing the floor of the reagent building, plus an unplanned fire). Drills were documented and included several suggestions to improve performance, which were later developed into corrective actions.

***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 workers and short term contractors receive basic cyanide hazard recognition and response training when they are first hired or first enter the mill site. Basic contractor training is given by an MSHA qualified person. New employees or longer term contractors complete 40-hr MSHA training. This is provided by MSHA certified trainers and includes cyanide hazard recognition and response. Cyanide hazard awareness forms part of critical task training of operators. In addition, cyanide annual awareness training is provided to all employees that may encounter cyanide in the workplace. This training is provided by DuPont. KRO also invites to this training community fire department and hospital staff that potentially would be involved with responding to a cyanide incident at the mine. Refresher training is provided to all staff and to fire department and medical responders on an annual basis.

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:

All new employees or contractors who may encounter cyanide undergo basic cyanide hazard recognition training and response before being allowed to work alone in areas where cyanide is present. New employees also undergo 40-hr MSHA training which includes a DuPont cyanide awareness training program given by the Health and Safety Coordinator. Mill operators, and other affected staff receive operational training related to their individual work assignments, based on the requirements of governing procedures. Operational training is provided when an employee is first hired or first assigned to a new work area involving cyanide, and refresher training provided annually. Training in equipment operation and task specific procedures related to cyanide is typically provided by the Senior Mill Foreman, shift supervisor, or other qualified trainers experienced with specific equipment and operating tasks.

Basic cyanide awareness training is given to short term contractors by a MSHA qualified person. MSHA certified trainers provide 40-hr MSHA training to new employees or longer term contractors. Annual cyanide hazard awareness training is provided by DuPont. Training in operational procedure requirements is provided by the shift supervisor, or other MSHA qualified workers.

Operational procedures and cyanide management procedures collectively form the basis for the training program, which follows the regulatory requirements of MSHA in which employers are obliged to provide hazard recognition training for employees. As part of operator-specific training, the program details all hazards (physical, electrical, gravitational and chemical) associated with each area of the plant and activity the worker will encounter when undertaking work assignments. The program identifies the safety and monitoring equipment in-place, warning signage, PPE requirements, and procedures to be followed to minimize risks associated with those hazards. Training requirements associated with the operational procedures applicable to each area/process in the plant must be completed to the satisfaction of the supervisor before a worker is allowed to work unsupervised in that area or process. All staff receive cyanide awareness and emergency response training, which is updated at least annually.

KRO evaluates the effectiveness of training through testing new employees during task training and through conducting task observations. At present the Mill conducts one task observation a month. The program is in the process of being revised so starting in early 2009 the mill will target to complete six task observations a month.

Training records are being retained indefinitely. Records include the name of the employee, the trainer, the date of training, and the topics covered. With regard to MSHA training the trainer only signs-off that training is complete when he is comfortable that the worker/contractor has demonstrated an understanding of the subject matter and is competent in the task being trained. In addition exams are completed by new operators to demonstrate that they understand the subject matter/tasks.

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:

Cyanide unloading, mixing, production and maintenance personnel are trained in the requirements of operational procedures as well as relevant cyanide management procedures, including emergency response procedures. Response procedures are covered during hazard and awareness training which is part of MSHA training, and during annual cyanide refresher training. All workers who may come into contact with cyanide are trained in the use of emergency response equipment, including SCBA, and in first-aid response, including the use of oxygen and amyl nitrite. In an emergency, however, amyl

nitrite would be administered by an EMT. The ERP includes emergency response procedures to address emergencies associated with specific cyanide failure scenarios. The ICP addresses decontamination and clean-up of cyanide releases and first aid procedures. Mock drills are periodically undertaken to test and improve response skills, as previously noted in Section 6.3(7).

Response team members are trained through participation in mock drill exercises as well as external training programs. A number of KRO's employees are also community fire fighters. Three employees are EMTs and two more are expected to qualify as EMTs in the New Year. Since the mill started operation in October 2008, the team has participated in one drill (November 2008). Emergency response planning and training is completed in partnership with community responders (fire department, County Hospital and police). Twelve emergency response personnel also completed crisis media training in 2008.

As previously noted, emergency drills are conducted that involve worker exposure and environmental release. Mock drills were conducted in 2005 (sabotage/rupture of cyanide storage tank), 2007 (mill evacuation) and 2008 (employee overcome with HCN while washing the floor of the reagent building with a water hose plus an unplanned fire). In addition to mock drills twelve emergency response personnel also completed crisis media training in 2008. Critiques of mock drills involved the evaluation of the skills and knowledge of specific personnel, and where deficiencies were noted training was recommended. Training attendance sheets are retained for all training sessions. MSHA/Critical task training records are maintained in personnel files. Mock drill participants are documented; EMT Certification is maintained on the State of Washington EMT Certification Web Page. Overall , the effectiveness of training is demonstrated through exams for new hires, and by ongoing observation of work practices by the Health and Safety Coordinator.

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:

KRO is located in a historical mining district that has seen the use of cyanidation processes for mineral extraction since the late 1800s. KRO is a relatively large employer; most of its workforce resides in the nearby community. Because the workforce is a source of ongoing information about mine activities, it may therefore be inferred that the community is generally well aware of KRO's use of cyanide. Kinross has also recently initiated an emergency response and communication policy based on the United Nations Environmental Program (UNEP) APELL guidelines. The APELL process is focused on the development and implementation of effective emergency response plans in local communities, and requires the active engagement of local stakeholders. As part of the implementation of this policy, KRO has sponsored the formation of the Buckhorn Community Advisory Association (BCAA) which includes representatives from KRO management, community medical resources, county law enforcement, local volunteer fire departments, regulatory representatives, and other stakeholders. Records review indicates that BCAA holds periodic Community Advisory Board (CAB) meetings. The CAB is by design a multi-stakeholder group, and serves as an open forum for the community to openly discuss mine-related issues. It is also understood that the CAB meetings are advertised in the local newspaper and are open to any community member.

KRO also participates in separate bimonthly emergency response coordination meetings with community medical emergency response personnel, county law enforcement, and local volunteer fire departments. These meetings provided an additional forum for the discussion of detailed emergency response issues associated with cyanide.

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

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

Describe the basis for the Finding/Deficiencies Identified:

Please see the response to 9.1 above; because of its proximity to an international border and major hydropower project and other considerations, KRO is subject to stringent US Department of Homeland Security (DHS) legal constraints on openly discussing cyanide volumes, transportation, storage location, or other management practices in any significant detail. The CAB and emergency response meetings described previously provide the opportunities for community interaction required by the ICMC, but it must be noted that KRO is, by law, significantly limited in the cyanide-related information that it can provide. In addition to the CAB meetings, KRO also participates in an annual environmental fair in which general public questions about its operations can be responded to, subject to DHS constraints. At another level (although still subject to DHS

requirements), Kinross produces an annual Corporate Social Responsibility Report that is available through the Kinross corporate website and provides another opportunity for stakeholder interaction.

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:

A general discussion of KRO's activities is published on the Kinross website. Per the DHS requirements previously mentioned, this discussion does not specifically address the use of cyanide. However, information from the Supplemental Environmental Impact Statement (EIS) for the Buckhorn mine was entered in the Federal Register by the US Forest Service in 2004 (and is therefore publicly available), and includes a general description of the cyanide process used at the KRO mill. The full Supplemental EIS for the Buckhorn project is also a publicly available document; see Sections 9.1 and 9.2.

No cyanide exposures have occurred during Kinross's tenure (Note: the refurbished milling operation for the Buckhorn mine was just initiated in October 2008) but are required to be immediately reported to the Mine Safety and Health Administration (MSHA) and Washington State Department of Labor and Industry. Any such reports would be public information. Likewise, no cyanide releases have occurred, but the State of Washington Department of Ecology Resources (WDOE) and KRO's ICP requires KRO to report any release that reaches surface water to the WDOE, local authorities, and the US Coast Guard National Response Center. KRO is also required to immediately report releases to WDOE, the US Environmental Protection Agency, and local authorities if above the Federal reportable quantity (RQ) limits; the RQ limits are defined in the ICP, along with guidance for the approximate volumes of spilled solution in critical areas of the plant or tailings disposal facility that would trigger such reporting.

Reports of releases involving any of the aforementioned scenarios become public information. WDOE also requires that any release that poses a threat to human health or the environment (based on best professional judgment) must be reported within 90 days. If such releases are not deemed to pose such a threat, the details must nevertheless be documented and made available to WDOE upon request. Once made available, such information would also become public information.

In addition, as part of its Corporate Responsibility Initiative, Kinross publishes an annual report that includes performance data tables listing all regulatory actions, whether or not they involve cyanide, as well as any reportable actions. These reports are openly available on the Kinross website.

Kettle River Operations		June 12, 2009
Name of Mine	Signature of Lead Auditor	Date