

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



Prepared for:
Cripple Creek & Victor Gold Mining Company
Cripple Creek, Colorado, USA

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

22 September 2010

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Seattle, Washington 98101
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SUMMARY AUDIT REPORT

Name of Mine: Cresson Project

Name of Mine Owner: Cripple Creek & Victor Gold Mining Company, a joint venture of AngloGold Ashanti (Colorado) Corp., Manager, and GCGC, LLC

Name of Mine Operator: Cripple Creek & Victor Gold Mining Company

Name of Responsible Manager: Ben Guenther, Vice President Operations and General Manager

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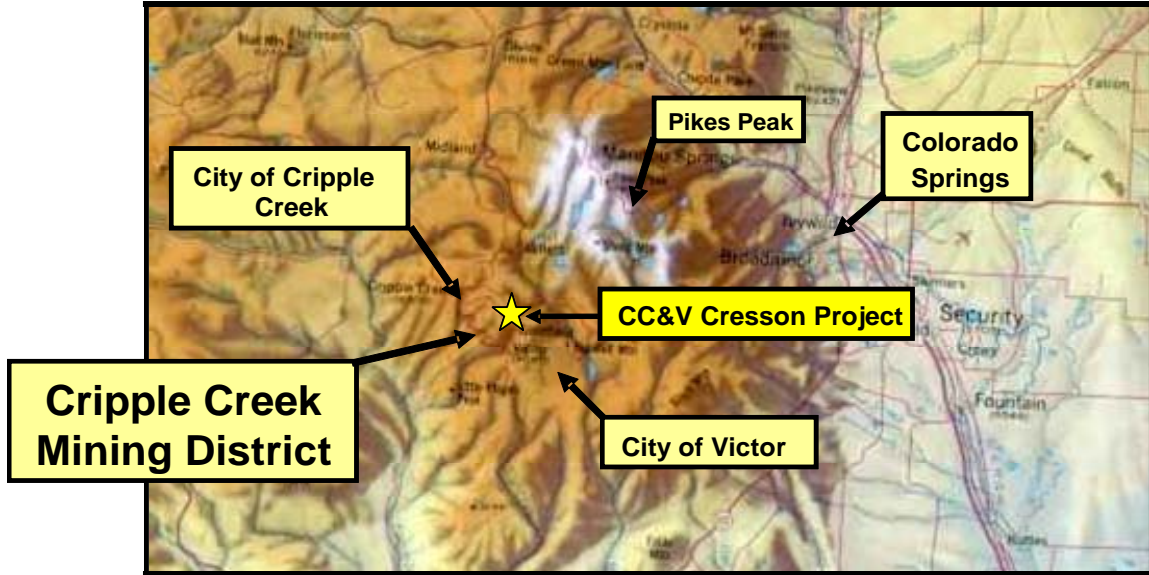
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Location detail and description of operation:

Cripple Creek & Victor Gold Mining Company's (CC&V's) Cresson Project is a joint venture between AngloGold Ashanti (Colorado) Corp., Manager, and GCGC, LLC. The Cresson Project is located in a historical mining district between the small towns of Cripple Creek and Victor, Colorado on State Highway 67, south-southwest of Pikes Peak. The mine area and its immediate vicinity have been actively mined since the late 1800s, and contain many abandoned underground workings, headworks, waste rock piles, test pits, and other features associated with historical underground and open pit mining operations.

The Cresson Project is a large open pit operation with a dedicated, double- and triple-lined Valley Leach Facility (VLF). Pregnant solution from the VLF reports to an Adsorption, Desorption and Recovery (ADR) Plant for recovery of gold. The Cresson Project was initially permitted in 1994, and has since undergone several phases of permitting to support mine expansion. In 2008, CC&V received all required approvals for a mine life extension that is expected to be completed in approximately 2016. However, other potential developments are being evaluated, which may result in further extensions. The mine location is shown in the following Figure.



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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 Street, Suite 1700
Seattle, Washington 98101
USA

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

Names and Signatures of other Auditors


Mark Montoya 

Glenn Mills 

Date(s) of Audit: June 7 through June 11, 2010

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

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Signature of Lead Auditor

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

Standard of Practice

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

The operation is: in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 1.1

Discuss the basis for this Finding/Deficiencies Identified:

CC&V's cyanide procurement arrangements have not changed since the June 2007 ICMC certification audit. Through 2008, CC&V was contracted to CyPlus for cyanide supply and delivery services. However, in 2008 CyPlus divested its gold mining supply operations in Canada and the US, ownership of which was assumed by Cyanco. Cyanco assumed responsibility for the CC&V supply contract as part of the 2008 acquisition of CyPlus's North American assets, and has continued the subcontract arrangement without any substantial modifications.

The intent for mutual compliance with the ICMC was recognized in the initial wording of the 2002 contract between CyPlus and CC&V, which was modified in 2007 (Change Order 003) to specifically require that the manufacturer and hauler be certified to the ICMC. Change order 004 extended the contractual period of performance through the end of 2014.

Cyanco's services to CC&V were originally managed from CyPlus's operation in Cadillac, Quebec, which was certified to the ICMC in January 2007, acquired by Cyanco in 2008, and (as Cyanco) recertified in November 2009.

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

Standards of Practice

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

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- 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:

The contractual relationships between CC&V, CyPlus/Cyanco and between CyPlus/Cyanco and TriMac have not changed since the 2007 audit. All responsibilities for cyanide supply and delivery are contractually assigned to Cyanco, who inherited the CC&V contract as a result of the CyPlus divestiture. Cyanide is delivered in approximately 40,000 lb. batches, in single, dedicated, stainless-steel "ISO" containers. Cyanco leases dedicated specially designed trailers and the ISO containers, which are transported by TriMac under a Cyanco contract. All trailers/containers are designed to meet or exceed DOT standards.

All cyanide production and transportation takes place within the continental US. Labeling and packing specifications are controlled as part of bulk loading operations. All labeling is in English and includes the chemical name, hazard (marine pollutant) code, and DOT hazards code [1689 (6)].

Cyanide container/trailer pickup locations and final routing instructions for traveling through the communities closest to the mine are documented on the transporter's bills of lading. Procedures for evaluation and selection of highway routes to the CC&V mine site are controlled by TriMac's own cyanide management practices, which were reported to have been subject to a recent (and successful) ICMC certification audit. This was in response to recent changes in the ICMC, as TriMac had previously been subject to an ICMC-equivalent third-party audit by CyPlus in 2006. Although no SAR indicating ICMC certification status for TriMac was available for review at the time of the audit, communications with ICMI representatives prior to the submittal date of this report indicate that although public announcements were on hold pending receipt of authorization to post the SAR, TriMac has indeed achieved ICMC certification status.

No interim loading, storage and unloading occurs during shipment as the containers are transported directly to the solution mixing and offloading area at the Cresson Project.

TriMac is responsible for delivering cyanide free on board (FOB) the security gate at the Cresson Project. CC&V takes ownership of the cyanide at the point the cyanide trailer is brought through the main gate. Cyanco was the designer of the mixing facility; Cyanco and CC&V both provide training to the TriMac drivers with respect to spill response and cyanide mixing and transfer operations.

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Safety and maintenance of the means of transportation, and security and emergency response during transportation is clearly the responsibility of TriMac pursuant to the conditions of their contract with Cyanco.

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:

Cyanco's contract with CC&V was modified in 2007 to require that the supplier and transporter both be certified to the ICMC or undergo an ICMC-equivalent audit by a third-party auditor. The latter option was in force in 2007, and an ICMC-equivalent third-party audit was conducted for TriMac in November 2006. Although the current version of the ICMC now requires that transporters be certified to the ICMC, the language of 2007 contract adequately addresses this requirement of the Code since TriMac has also recently been audited to the ICMC, and certification status has been achieved.

Signed bills of lading demonstrating maintenance of custody by the shipper (TriMac) from the point of origin to the Cresson Project are maintained on file. TriMac is the only transporter.

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:

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The facilities for mixing, unloading, and storage of cyanide have not changed since the June 2007 certification audit. They are located within the security perimeter of the mine, physically distant (2-5 miles) from any dwellings or communities. CC&V employs a cyanide producer-designed dissolution system [i.e., the CyPlus® SLS (Solid-to-Liquid System)]. The SLS system is connected to the supplier's stainless steel ISO delivery tanks, water and caustic soda introduced, and the solution cycled between a stationary mixing tank and the delivery tank until all solid cyanide is dissolved. The final solution is then transferred to CC&V's solution storage tank. The mixing and storage tanks are both fitted with audible high-level alarms, and tank levels are monitored remotely by process operators in the ADR Plant control room.

During the SLS process the cyanide delivery tanks are staged on a concreted pad sloped to a sump within the containment for the stationary mixing and storage tanks. The cyanide storage and mixing tanks are both located within a dedicated concrete impoundment; the impoundment and the entire adjacent ADR building are also underlain by an HDPE barrier that is sloped to drain to the VLF. At the time of this onsite recertification audit, there was not a written procedure for pumping out the offload sump, although CC&V stated that operators are properly trained. CC&V was requested to create a new SOP to address the procedure for pumping out the offload sump. Following the onsite audit, CC&V updated the appropriate inspection checklist provide guidance for identifying when pumping of the offload sump at the cyanide Offload and Storage Facility is required. CC&V also updated the affected SOPs to demonstrate that inspection and cleaning of the sump area are documented, and to provide appropriate standards and guidance for pumping out the sump.

With respect to the secondary containment providing a competent barrier to leakage, a number of cracks and areas of spalling were noted within the impoundment. CC&V staff members were requested to initiate appropriate repairs, to adjust associated inspection guidelines to include appropriate visual standards for initiating maintenance or repair, and to conduct appropriate training in the requirements of the revised inspection/maintenance standards. All requested actions were completed prior to submittal of this SAR.

The storage area is within the security perimeter of the mine, and there is no public access. However, during the observation of a solution mixing/offloading event, contractor maintenance actions were underway that included forklift traffic on the roadway immediately adjacent to the delivery tank apron. CC&V staff members were requested to modify cyanide mixing and offload procedures to require temporary barriers to block the roadway and thereby restrict access to the apron to authorized personnel only while mixing/offload activities were underway. Requested actions were completed prior to submittal of this SAR.

No incompatible materials were being stored with cyanide solution except for a potential situation identified in the ADR Plant where an acid wash vessel used in the carbon

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regeneration process could contain low concentrations of cyanide, and shared a common containment with a hydrochloric acid mix tank. CC&V staff were requested to assess the potential for HCN generation within the impoundment in a worst-case scenario in which the vessel and tank failed simultaneously, and if significant, to provide separate containment for either the vessel or tank. A documented assessment was completed that demonstrates that the potential for HCN generation was not significant. See Section 4.7(2).

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:

CC&V does not handle empty cyanide containers as cyanide is only purchased and delivered to the site in dedicated, reusable stainless steel ISO containers. After mixing in the ISO container and transfer of the cyanide to the storage tank, the access port on top of the ISO container is opened and a visual inspection made to ensure that all tank contents have been dissolved and transferred; the port is then secured and the tank washed down as necessary prior to being returned to the production facility. During observation of a mixing activity; however, it was observed that tanks were being released for return shipment with small (<2 gallons) of unmixed residue. CC&V staff members were requested to modify the SOP to permit small amounts of unmixed cyanide residue in the ISO tank interior.

Detailed procedures are in place for operation of the SLS system. The two TriMac drivers are primarily responsible for mixing and transfer of cyanide between the ISO container and the storage tank. CC&V personnel provide oversight at the beginning and end of each mix, and monitor tank volumes remotely from the ADR control room. The procedures detail safe operation of valves and couplings, precautionary inspections of all mixing connections for leaks, and for performing a washdown of the ISO tank dome prior to disconnection, inspection of the interior of the container to ensure complete transfer of the reagent, and moving the trailer and tank off the mixing/offloading apron.

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

Standards of Practice

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

- The operation is:
- in full compliance
 - in substantial compliance
 - not in compliance...with Standard of Practice 4.1.

Discuss the basis for the Finding/Deficiencies Identified:

The active cyanide facilities at the CC&V operation include the Cyanide Offload and Storage Facility, VLF (Phases I through IV), ADR Plant (Carbon Trains A through D and associated process circuits and tanks), and the External Storage Pond. The VLF is comprised of a synthetic-lined leach pad with multiple Process Solution Storage Areas (PSSAs), i.e., pregnant solution ponds located within the heap.

CC&V has developed and implemented management, operating, and contingency plans and procedures, which provide the standard practices necessary for the safe and environmentally sound operation of the cyanide facilities. In addition to the management and operating plans, procedure documents include a wide range of CC&V departmental SOPs. CC&V's Wildlife Protection Plan provides preventative measures for protecting wildlife mine wide. The operating procedures specific to the cyanide facilities are managed as part of CC&V's third-party certified ISO 14001 Environmental Management System (EMS). The EMS includes processes for periodically assessing and improving the effectiveness of all environmental management practices, including management of cyanide. Additionally, following the June 2007 ICMC certification audit, CC&V established a third-party certified OSHAS 18001 Health and Safety Management System.

The regulatory operating permits for the VLF and ADR Plant identify the assumptions and parameters on which the facility designs were based. These permits include the Mining and Reclamation Permit, the Discharge Permit for Arequa Gulch and the General Stormwater Permit. The design reports prepared for the VLF and ADR Plant incorporate the regulatory criteria required by these operating permits.

CC&V has implemented inspection programs for all process facilities. These programs involve inspections conducted each shift, daily, three times each week, weekly, monthly, quarterly and annually. Principally, the Mining and Reclamation Permit serves as the operating manual for the VLF and process facilities to ensure protection of water quality, and not only establishes operating parameters, but also provides inspection and monitoring requirements. In accordance with the permit, CC&V monitors surface water,

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groundwater, leak detection systems, solution collection systems, underdrain systems, and the PSSAs and External Storage Pond. Additionally, Process personnel conduct detailed, routine inspections of the VLF and ADR Plant, including process tanks, secondary containments, pipelines, pumps and valves. The Environmental Department conducts weekly informal inspections of facilities, site wide. Environmental inspections include driving around the active area of the VLF looking for signs of ponding solution, broken/leaking pipes, drip lines and valves, slope stability issues, and observing wildlife, the integrity of fencing and the condition of the liner at the External Storage Pond. The Environmental Department also conducts weekly informal walkthrough inspections of the ADR Plant to identify containment or other issues, annual detailed inspections of the synthetic liner at the External Storage Pond, and quarterly inspections of the entire stormwater management system, including stormwater diversions. All inspections are properly documented and records are retained for a period of three years or more.

Agency inspections include monthly inspections by the Colorado Division of Reclamation Mining and Safety (DRMS) in accordance with the Mining and Reclamation Permit, annual inspections by the Water Quality Control Division of the Colorado Department of Public Health and Environment (CDPHE) in accordance with the discharge and stormwater permits, and arbitrary multimedia inspections by the U.S. Environmental Protection Agency (EPA). Agency inspections may occur more frequently, such as during construction activities or as otherwise warranted.

In addition to the inspection procedures outlined above, CC&V has implemented a PM program for critical equipment. The PM schedule provides a listing of the equipment along with the planned time for maintenance. The PM system is managed using JD Edwards© (JDE) software, which automatically produces PM work orders on an established schedule. The system identifies future activities for regular preventive maintenance and includes information on the task requirements and completion.

CC&V has implemented procedures to identify when process or operating changes increase the potential for environmental impacts and safety risks, respectively. The procedures define the method used to identify environmental aspects and related environmental impacts and provide criteria for determining the relative significance of each associated impact.

Contingency plans implemented for the operation include procedures for responding to situations which demonstrate significant changes from previous monitoring results; managing solution levels under varying upset conditions to prevent unintentional releases; destructing cyanide where process solution must be transferred to the External Storage Pond; and for water management, inspections and monitoring during temporary closure or cessation of operations. In addition, CC&V has implemented a comprehensive Emergency Response Plan.

The primary power source for the CC&V operation is overhead line power from the local grid. However, CC&V maintains four diesel-powered generators at the ADR Plant as backup power sources, which are sufficient to power all process pumps and equipment

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(i.e., the ADR Plant and VLF remain fully operational during line power outages). CC&V performs routine electrical and mechanical PM inspections on the generators.

A below-grade geomembrane liner underlies the entire ADR Plant area, including the cyanide Offload and Storage Facility, and provides tertiary containment for the cyanide facilities. Therefore, if the physical integrity of the concrete becomes compromised temporarily by cracking, the underlying liner would provide competent secondary containment. CC&V Environmental personnel monitor the liner system leak detection sump, located downgradient of the ADR area, weekly. Additionally, CC&V indicated that inspections of the containments (although not fully documented) had been conducted regularly over the three year period between ICMC audits, and that it did not consider the condition of the concrete critical in providing competent secondary containment because of the underlying liner. Nonetheless, CC&V concurs that although the condition of the concrete may not be critical in providing competent secondary containment, maintaining its physical integrity as a best management practice is prudent.

During this onsite recertification audit, a number of cracks and areas of spalling were observed within the concrete containment at the Offload and Storage Facility. As a result, CC&V updated its inspection procedures to better document visual inspections of the concrete containments at the Offload and Storage Facility and within the ADR Plant, and provided copies of the updated inspection checklist as evidence. Additionally, CC&V developed a new procedure providing guidance on appropriate visual standards for initiating maintenance or repair on facilities. On July 19, 2010, CC&V repaired the cracks and spalling in the concrete at the Offload and Storage Facility containment and provided photographic evidence demonstrating that the work had been completed. On September 7, 2010, CC&V provided training records as evidence that Process Operators have been properly trained on the updated/new procedures and provided copies of completed inspection forms demonstrating implementation of the procedures.

Thus, in determining that the operation was initially in substantial compliance under this Standard of Practice, the auditor considered the redundant, engineered controls and monitoring, and CC&V's good-faith effort to comply with the provisions of the ICMC. Furthermore, no releases or water quality impacts resulted from the damaged concrete and CC&V took prompt action to remedy the circumstances. The auditor subsequently determined the operation to be in full compliance with this Standard once CC&V demonstrated that the concrete containment had been repaired and that measures were taken to prevent reoccurrence of the situation (via the evidence discussed above).

As previously mentioned, cyanide pipelines, pumps, and valves are inspected on a routine basis. However, during this onsite audit, precipitated salts were observed on multiple piping locations and a number of pumps, and valves at the Offload and Storage Facility and within the ADR Plant. Because the inspection records over the past three years do not specifically document the occurrence of precipitated salts, the auditor has no means to determine the duration of the deficiency observed while on site, or if it was an isolated incident or programmatic failure. In the auditor's professional judgment, CC&V's routine inspection and maintenance programs, implemented over the past three years

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between ICMI audits, represent sufficient evidence of the operation's good-faith effort to comply with the provisions of the ICMC. Furthermore, no exposures resulted from this deficiency. For these reasons, the auditor initially determined the operation to be in substantial compliance under this Standard of Practice. CC&V took prompt action to remedy the circumstances by updating its inspection procedures and providing worker training, and thus became fully compliant under this Standard by providing evidence demonstrating implementation of the updated procedures and that measures have been taken to prevent future reoccurrences.

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:

This Standard of Practice is not applicable, as the Cresson Project does not use milling processes that generate tailings.

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

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

Discuss the basis for the Finding/Deficiencies Identified:

The CC&V process facilities (VLF and ADR Plant) operate as a zero-discharge facility and the water balance is a closed system. All process solutions are contained within the PSSAs. Pregnant solutions from the VLF are pumped to the ADR Plant for processing and the ADR circuits process the pregnant solutions and return barren leach solution to the VLF. Nonetheless, under the Discharge Permit for Arequa Gulch, CC&V is allowed to treat water and discharge to Arequa Gulch if extraordinary storm events cause the External Storage Pond capacity to be exceeded. Cyanide is destructed via a hydrogen peroxide injection system in cases where process solution must be transferred from the barren solution tanks or VLF to the External Storage Pond.

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CC&V has developed a comprehensive, probabilistic (stochastic), dynamic water balance model, using GoldSim© software, which tracks water flow throughout the engineered water management facilities. This GoldSim© model was developed and is periodically refined for permitting/design purposes, and is included in the Mining and Reclamation Permit application. The model considers flows into and from the PSSAs and External Storage Pond, and accounts for the operating volume, draindown resulting from 12 hours of power loss, solution accumulation due to seasonal climatic variation, the 100-year, 24-hour design storm event, and available pore space of the ore within the PSSAs. The model also simulates an eight-year post-mining leaching period, when no ore is placed on the VLF and solutions are applied to the ore, and considers the dynamic characteristics of the ore heap, which affect the timing of solutions reporting to the PSSAs.

In addition to the GoldSim© model, CC&V maintains a spreadsheet-based, operational water balance model, which is managed daily by the Chief Site Metallurgist. The operational model considers rates at which solutions are applied to active areas of the VLF, ore moisture, precipitation, freshwater makeup to the ADR Plant and barren solution tanks, pump back from Arequa Gulch (underdrain flows) and the External Storage Pond, evaporation, and ore take up. Conservatively, the only loss considered by the water balance model, other than evaporation, is moisture up take by the ore. Because CC&V maintains diesel-powered, backup generators at the ADR Plant and because the VLF is designed to contain draindown resulting from a 12-hour power outage, the water balance model itself does not directly consider the effects of power outages or equipment failures.

CC&V collects onsite precipitation data from a meteorological station and enters the onsite precipitation data into the operational water balance on a monthly basis. The water balance model does not directly account for freezing and thawing effects; however, snowmelt (measured as inches in the precipitation data collected on site) is entered into the operational water balance on a monthly basis. Surface water flow from upslope drainage areas is diverted away from the process facilities by engineered structures.

The primary operating criteria for the VLF include the maximum operating volumes of each PSSA (80 percent capacity), maximum hydraulic head on the secondary liner in each PSSA (2 feet), and maximum hydraulic head on the secondary liner in the External Storage Pond (2 feet). Pursuant to the Mining and Reclamation Permit, CC&V monitors the operating parameters of the water management facilities regularly, and deviations from the normal operating criteria require further action provided by written contingency procedures. Operations personnel monitor solution levels on a daily basis and provide results to the Chief Site Metallurgist for incorporation into the operational water balance. In addition to the routine inspection and monitoring performed by CC&V, the DRMS monitors solution levels on a monthly basis.

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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:

Phase III pregnant solution flows through a small external solution equalization pond (a.k.a. "Bird Ball Pond") located on the south side of the VLF prior to reporting to the Phase I PSSA. This small pond, which is fenced and covered by high density polyethylene (HDPE) bird balls, is the only facility in which open cyanide-bearing solutions could occur. Data reviewed during this onsite recertification audit demonstrate that WAD cyanide concentrations in the Phase III pregnant solution are maintained below 50 mg/l (typically below 10 mg/l).

The 22-million gallon External Storage Pond currently serves as an emergency storage pond and does not continually or routinely store process solution, although, freshwater/precipitation is maintained in the pond at an approximate depth of six feet. CC&V samples this water for cyanide if process solution is introduced, which has not occurred over the past three years. This pond is fenced and equipped with an audible hazing system.

In accordance with the Wildlife Protection Plan, CC&V personnel are instructed to contact the Environmental Department when wildlife mortalities are discovered and to document the details of the incident. According to CC&V Environmental personnel interviewed during this onsite recertification audit, no cyanide-related wildlife mortalities have occurred since the June 2007 certification audit. CC&V provided evidence of documentation completed for wildlife incidents that had occurred prior to the June 2007 certification audit.

CC&V uses buried drip emitters to apply leach solution to the tops of the heaps in order to minimize freezing and ponding. Drip lines on the sides of heaps remain on the slope surface, where the potential for ponding is low due to the steep slopes, although CC&V is exploring a method to bury the drip lines on the side slopes so that the wind does not displace them. Overspray is effectively eliminated with the drip emitters. CC&V has implemented procedures for rectifying ponding of process solutions containing cyanide concentrations greater than 20 mg/l, which include measures to deter wildlife from standing process solution in active areas of the leaching and process facilities, correcting any area of standing process solution which has surface dimensions larger than 3-ft by 3-ft, and employing fencing, bird balls, and/or netting where standing process solution cannot be avoided.

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During the onsite audit, the only ponding observed on the heaps was at the lime infiltration basins that CC&V constructed on top of the Phase IV leach area. Slaked lime is placed in the basins and allowed to infiltrate into the heap to enhance alkalinity. The temporary basins are constructed on the heap bench just ahead of the next lift of ore material that is being placed on the VLF. Once the lime in the basins is allowed to infiltrate into the heap, the basins are covered by the progressing ore lift. CC&V indicated that during the time the basins are exposed, there is constant activity (e.g., trucks dumping) in the area of the advancing dump face, which serves to deter wildlife. Additionally, the solution typically infiltrates quickly and/or forms a slurry composition. Therefore, CC&V has not implemented any temporary protective measures in the past. Nonetheless, CC&V updated its Wildlife Protection Plan to include additional exclusionary measures to deter wildlife from standing process solution in active areas of the leaching and process facilities. The lime infiltration basins observed during the audit have since been covered with ore.

CC&V first implemented operation of the lime infiltration basins in the second quarter of 2009, during the period between ICMC audits. During this onsite recertification audit, the CC&V Leach Pad Supervisor indicated that measures (such as ripping with a dozer) have been implemented as necessary to promote infiltration and rectify any ponding that has occurred in the lime infiltration basins over this period. Therefore, in the auditor's professional judgment, the ponding observed during this audit was an isolated incident, which was quickly remedied. Furthermore, the operation demonstrated that measures are taken to prevent reoccurring ponding and updated its Wildlife Protection Plan to implement additional protective measures, if they become necessary in the future. These factors form the basis for the finding of full compliance under this Standard of Practice.

The audit field inspection combined with the results of the wildlife mortality monitoring demonstrate that the CC&V procedures for applying leach solutions, inspecting the leach areas, and remediating ponding issues are being effectively implemented to minimize ponding and protect wildlife.

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 regulatory standard for cyanide in surface water (0.02 mg/l WAD cyanide) applicable to the Cresson Project is based on calculated flows in Cripple Creek and "reasonable potential analysis." The Arequa Gulch "use protective status" is Cold Water

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Aquatic Life, Class 2 Recreational, and Agricultural. The compliance point locations are “end of pipe” at Arequa Gulch and there is not an established mixing zone for “in-stream” compliance. The nearest perennial surface water body to the operation is Cripple Creek, which is approximately two miles south.

In compliance with the provisions of the Colorado Water Quality Control Act (25-8-101 et seq., CRS, 1973 as amended) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the “Act”), CC&V is authorized to discharge to Arequa Gulch at two outfalls (i.e., water from the VLF underdrain system and treated process water from the External Storage Pond) in accordance with effluent limitations, monitoring requirements and other conditions set forth in the Discharge Permit for Arequa Gulch (Permit No. CO-0043648). Except as allowed under the Annual Precipitation Exemption, no discharge is allowed from the VLF, pursuant to federal effluent guideline regulations at 40 CFR, Part 440.104. This limitation does not apply to any flows from the groundwater drainage system (underdrain system) underlying the VLF. The facility also has a Storm Exemption from Federal Effluent Limitations. These exemptions apply to the External Storage Pond outfall (treated process water).

There have been no discharges under the Discharge Permit for Arequa Gulch over the past three years. Discharge Monitoring Reports (monthly) demonstrate that no discharges occurred over the period 2007 through 2010 to date and CC&V is not engaged in remedial activity. Additionally, although there is not a requirement to sample for cyanide under the General Stormwater Permit, CC&V has not had a stormwater release since 2007, according to CC&V Environmental personnel interviewed during this onsite audit.

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:

The VLF is a zero discharge facility and currently employs three internal PSSAs (Phase I, II and IV). Solution within the PSSAs is piped to the beneficiation facilities at the ADR Plant. The ore storage liner system consists of a minimum one-foot thick soil liner placed on a prepared subgrade and overlain by geomembrane, which is then overlain by a leachate collection system embedded in a minimum two-foot thick layer of drainage cover fill material. The liner system within the PSSAs consists of a minimum of one-foot thick soil liner, overlain by geomembrane, overlain by solution collection fill material, overlain by geomembrane, which is then overlain by a minimum two-feet thick layer of

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drainage cover fill material. The leak detection and collection system within the PSSAs are continuously monitored and pumped to ensure that less than two feet of hydraulic head is placed on the lower synthetic liner. The entire VLF area is underlain by a leak detection system placed on the graded and prepared subgrade prior to placement of the soil liner.

A geomembrane liner connected to the VLF liner system underlies the entire ADR Plant area, including the cyanide Offload and Storage Facility. The liner serves as tertiary containment for the concrete secondary containment facilities provided at the offload and plant. The cyanide Offload and Storage Facility, located adjacent to the ADR Plant building, consists of a curbed, concrete loading apron for staging the delivery trucks/trailers containing the ISO tanks. The concrete apron drains to the adjacent concrete containment area occupying the Cyanide Mix Tank and the Cyanide Storage Tank.

CC&V conducts regular inspections and monitoring of the process facilities to ensure that the operating criteria are being met. In addition, regular monitoring of groundwater downgradient of the operation and of leak detection and solution collection systems is conducted to ensure that the facility is functioning as designed and protective of the environment.

Groundwater is regulated by DRMS in accordance with the Mining and Reclamation Permit. The regulatory numerical standard for cyanide in groundwater is 0.20 mg/l WAD cyanide and is based on five quarters of baseline data. CC&V monitors groundwater quality at three compliance points downgradient of the operation and reports results quarterly to DRMS. Quarterly groundwater monitoring data for the period 2007 through 2010 demonstrate that all numeric permit conditions were met over this period. There has been no seepage from the operation that has caused indirect discharges to groundwater; therefore, CC&V is not engaged in remedial activity.

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:

All cyanide storage and process tanks and process pipelines at the Cresson Project are provided with adequately sized concrete and/or synthetic-lined secondary containment. Nonetheless, CC&V has implemented written procedures for cleaning up spills, which include measures for sampling fluid and/or soils after detoxification and removal for confirmation testing.

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A geomembrane liner, keyed to the VLF liner system, underlies the entire ADR Plant area, including the cyanide Offload and Storage Facility located adjacent to the ADR Plant building. The liner serves as tertiary containment for the concrete secondary containment facilities provided inside the plant and at the offload.

The Offload and Storage Facility consists of a curbed, concrete loading apron for staging the delivery trucks/trailers carrying the ISO tanks. The concrete apron drains to the adjacent concrete containment area occupying the Cyanide Mix Tank and the Cyanide Storage Tank. The two tanks are set on solid concrete pads.

Concrete floors, curbs, and containment walls provide secondary containment for all process tanks located inside the ADR Plant building. The containments have concrete floor sumps with dedicated, automated pumps to collect and remove cyanide solution and slurry spillage for return to the process circuits. The ADR Plant also has an overflow sump that reports to the VLF lined containment area. This sump drain always remains open. The concrete sump at the Offload and Storage Facility is pumped out manually using a submersible pump and a hose. CC&V has implemented a written procedure for pumping out the offload sump.

The process tanks inside the ADR Plant are set on solid, concrete pads or are supported above the floor by steel structures. Process tanks located outside the ADR Plant building and offload containment, include the two barren solution tanks and the Pregnant Solution Distribution tank. The barren solution tanks are located outside, on the north side of the ADR Plant building, within the lined area. The tank foundations are solid, concrete pads. The Pregnant Solution Distribution Tank is located on the first lift of the Phase I VLF heap.

During the June 2007 certification audit, containment design and as-built drawings were reviewed to confirm that secondary containment volumes are adequate to hold 110 percent of the largest tank volume within an individual containment area, plus solution in the associated service pipelines. Since CC&V did not add any process tanks inside the concrete containment areas (i.e., the offload or ADR Plant) subsequent to the 2007 certification audit, the adequacies of these individual containment volumes were not reconfirmed during this recertification audit. Even so, the overflow sump in the ADR Plant building links the concrete containment to the VLF containment, which provides an added factor of safety.

The 8,000-gallon Acid Mix Tank is located inside the ADR Plant and it shares a common containment with two other process tanks, the Acid Wash Tank and the Acid Neutralization Tank. During this onsite recertification audit, CC&V field-measured the containment and calculated its available volume while accounting for the volume occupied by the other tanks/foundations in the containment. Based on the measurements, it was determined that the containment has adequate capacity to contain the entire volume of the Acid Mix Tank, thereby maintaining segregation from other process areas within the plant. However, some concern exists that in a worst-case failure, residual cyanide in the Acid Wash Tank could react with the acid to create a potential HCN issue. CC&V

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was requested to assess the potential for HCN generation within the impoundment, and if significant, to provide separate containment for either the wash vessel or mix tank.

Therefore, following the onsite portion of the recertification audit, CC&V performed an assessment to determine the potential for HCN generation within the impoundment in a scenario in which the vessel and tank failed simultaneously. Based on the secondary containment volume, the amount and moisture content of saturated carbon within the acid wash vessel and its cyanide concentration, CC&V determined that approximately 1.67 ppm of HCN gas would be generated in such an event. The alarm set point for the HCN detection system within the ADR facility is 4.7 ppm; therefore, a concentration of 1.67 ppm would not cause the system to alarm. Based its assessment, CC&V concluded that HCN generation would not be significant and that separate secondary containment is unwarranted. CC&V provided the audit team a copy of its assessment, including the analytical test results and supporting calculations.

Pipelines are located above ground with the exception of the short segment of drainpipe running from the ADR Plant overflow sump to the VLF. However, this pipe is located above the geomembrane underliner system, which drains to the VLF. Additional containment measures include differential flow/pressure and interlock systems. Based on direct field observations and interviews with CC&V personnel, the risk to local surface water quality from an unplanned pipeline rupture is extremely low.

CC&V uses carbon steel, stainless steel, HDPE, and polyvinyl chloride (PVC) piping materials and piping system components. All cyanide process tanks are constructed of carbon steel. These materials are compatible with cyanide and high pH solutions.

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

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

Describe the basis for the Finding/Deficiencies Identified:

Subsequent to the June 2007 certification audit, CC&V has constructed/implemented several new cyanide facilities and made several modifications to existing cyanide facilities at the Cresson Project. These include:

- Construction of the Phase IVc isolation barrier;
- Commissioning and decommissioning of a temporary carbon train at the ADR Plant;

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- Placement of new utility lines in the proposed Phase 5 area and modification of the proposed Phase 5 closure drain location;
- Implementation of the Hydro-Jex© system;
- Design of proposed, permanent carbon train (E Train);
- Extension of geomembrane liner at the Load Out Bin;
- Completion of liner repairs at the VLF (Phase IV area);
- Installation of new liner along the northwest edge of the VLF (Phase IV area);
- Relocation of the Load Out Bin; and
Recertification of existing liner.

In addition to the above projects, CC&V added a new 910 kW diesel-powered generator at the ADR Plant. The generator came on line in September 2009. Construction of the Phase 5 extension project was ongoing during this onsite recertification audit.

CC&V provided documentation demonstrating that Quality Assurance and Quality Control (QA/QC) programs were implemented during construction of these projects. Projects involving minor modifications to the cyanide facilities are documented in the Technical Revision applications and approvals pursuant to the Mining and Reclamation Permit. For projects involving new construction of the VLF liner system, formal construction reports were issued by the design engineers (i.e., Professional engineers registered in the State of Colorado), which address all materials and relevant construction methods.

CC&V retained the original QA/QC documentation for cyanide facilities constructed prior to and subsequent to the June 2007 ICMC certification audit. The documentation resides in the office of the Manager, Environmental Resources, in hardcopy format.

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:

CC&V has prepared and implemented written standard procedures for monitoring activities to evaluate the effects of cyanide use on wildlife and water quality. These include the Environmental Sampling Protocol Guide, which provides the procedures for

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monitoring and sampling groundwater and surface water quality, and the Environmental Sampling Protocol Guide for CDPHE Permits (discharge permits). The Wildlife Protection Plan provides preventative measures for protecting wildlife mine wide and outlines inspection and reporting procedures. The sampling protocol guides were developed by CC&V personnel using U.S. Environmental Protection Agency (EPA) protocols. The protocols are managed and administered by appropriately qualified persons. CC&V conducts monitoring at frequencies adequate to characterize water quality and wildlife mortalities.

The Mining and Reclamation Permit with DRMS and the discharge permits with CDPHE specify monitoring locations and frequencies. The sampling protocols detail the steps for collecting, preserving, and preparing the samples prior to shipment. They also provide shipping and chain of custody procedures. Field sampling conditions for each sampling episode are documented on the Water Sampling Field Data Sheet. Information provided on the form includes the sample number, date, time, type, analysis suite, sampler, field data, and any comments. Field data include water temperature, flow, specific conductance, dissolved oxygen, pH, and the presence of oil and grease. Information on the Sampling Field Data Sheets is also included on the chain-of-custody forms.

CC&V maintains an extensive monitoring network at the Cresson Project in accordance with its Mining and Reclamation Permit. Monitoring is conducted by CC&V professional staff and water quality samples are shipped to outside, certified laboratories for analysis. Appropriate QA/QC procedures are used to validate the sample collection and analytical methods.

Surface water monitoring is conducted on a quarterly basis at three locations downgradient of the operation. These locations include one station directly downgradient of the VLF on Arequa Gulch, one station downgradient of the operation on Wilson Creek just below the confluence with Bateman Creek, and one station downgradient of the East Cresson Mine Area on Theresa Gulch. In accordance with the Discharge Permit for Arequa Gulch, the outfall for the VLF underdrain system is checked three times per week, and samples are analyzed for cyanide weekly (if flowing). Groundwater quality and depths are monitored on a quarterly basis. Quarterly samples are taken at three Compliance Points located downgradient of the VLF. In addition, regular (at least weekly) monitoring of the leak detection and solution collection systems associated with the VLF is conducted to ensure that the facility is functioning as designed and protective of the environment.

CC&V Environmental personnel interviewed during this onsite recertification audit described the wildlife mortality inspection frequency as daily, at minimum. The Environmental Department conducts weekly inspections of facilities, site wide, which include observing the integrity of protective measures and “accumulated” wildlife (i.e., wildlife that is gathering and lingering). In accordance with the Wildlife Protection Plan, CC&V personnel are instructed to contact the Environmental Department when wildlife mortalities are discovered and to document the details of the incident. According to CC&V Environmental personnel interviewed during this onsite recertification audit, no

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cyanide-related wildlife mortalities have occurred since the June 2007 certification audit. CC&V provided evidence of documentation completed for wildlife incidents that had occurred prior to the June 2007 certification audit.

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

Standards of Practice

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

The operation is: in full compliance
 in substantial compliance
 not in compliance...with Standard of 5.1.

Describe the basis for the Finding/Deficiencies Identified:

CC&V's governing permit (Colorado Office of Mined Lands Permit M-1980-244) requires submittal of formal Technical Requests (TRs) and/or amendments as the means to negotiate estimation and establishment of a financial warranty for the third-party decommissioning of all aspects of mine operations, including all cyanide infrastructure.

As observed in the June 2007 certification audit, CC&V provides the State of Colorado Mined Lands Reclamation Board (MLRB) a written discussion of its proposed decommissioning procedures as part of Permit M-1980-244; these are updated with each Amendment. Amendment No. 8 was in effect in June 2007. Amendment No. 9 was approved in 2008 and governs current mining activities. The project description section of Amendment No. 9 describes reclamation objectives, materials and specific procedures that will apply to the decommissioning of the VLF, ADR Plant, and associated cyanide infrastructure and provides a conceptual basis of the SOPs that would be employed in last phases of mine operation. The Amendment No. 9 permit also includes a general discussion of the sequence of development of the mine life extension (MLE), as well as a table that presents the approximate schedule for construction, operations, and reclamation.

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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:

CC&V's governing permit requires estimation and establishment of a financial warranty for the third-party decommissioning of all aspects of mine operations, including all cyanide infrastructure. Permit M-1980-244 has been amended once since 2007 (Amendment No. 9, approved April 2008) to address various MLE actions. On an annual basis, CC&V is also obliged to report completed reclamation actions, new disturbances anticipated in the upcoming year, and estimated reclamation actions for the ensuing year. The permit also requires that TRs or amendments, as appropriate, be prepared for project changes, including changes that may affect cyanide-related decommissioning. The adequacy of the financial instrument must also be evaluated with each TR submittal and/or submittal of any additional permit Amendments.

The permit also mandates the establishment of a financial warranty to address the decommissioning of all aspects of mine operations, including all cyanide infrastructure, assuming the use of third-party resources. The governing permit requires that the warranty be evaluated at least annually (or as necessary to accommodate project changes documented by permit Amendment or TR) and adjusted as appropriate in response to revised estimates. Each annual report, Amendment, or TR is subject to review, approval, and acknowledgement of updated financial warranty estimates by the responsible permitting specialist from the state Department of Natural Resources, Division of Reclamation, Mining, and Safety (DRMS).

Review of the latest closure cost summaries clearly identifies chemical closure of the VLF (rinsing and neutralization), building demolition (which would include the ADR Plant and monitoring sheds/pumphouses), and removal of associated infrastructure (e.g., roadways, fences, powerlines, pipelines). Based on the information reviewed, decommissioning values associated with these cyanide-related areas or tasks are substantially less than the ultimate financial warranty value.

It may also be noted that these same third-party decommissioning estimates form the basis of the financial representations of liability that CC&V must periodically transmit to its parent company, and as such are subject to periodic internal and external financial audits in accordance with International Financial Reporting Standards (IFRS) and Generally Accepted Accounting Principles (GAAP).

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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:

SOPs have been developed for the mine operations. These are managed as part of CC&V's ISO 14001-based EMS. Specific cyanide related SOPs are in place that address cyanide unloading, mixing, plant operations and equipment decontamination operations. In addition there is a mine wide procedure for confined space entry. These procedures document equipment/personal protective equipment (PPE) requirements, potential health and safety hazards, pre-work inspections and operator instructions. Procedures are reviewed and updated as required but as a minimum every 2 years.

A change management procedure is followed when changes to operations occur, whether planned or unplanned, to ensure that significant environmental impacts are considered in advance of operational changes. The procedure requires the Manager, Environmental Resources and Manager of Safety, Health, and Security to be consulted during the initial phase of planned changes to operations. There is no formal documentation and review process for small operational changes, although environmental and safety involvement/knowledge of proposed changes and their implementation may be recorded in weekly manager's meetings minutes. There is also a formal "Change of Design or Operating Procedure" for use when design or procedural changes to the VLF or ADR plant are proposed. In addition, there is a formal documented change management procedure for capital improvement projects whereby the management, including Environment Resources and Safety, Health and Security must review and sign-off on the Authorization for Expenditure (AFE) form before the project is approved.

Workers are encouraged to provide input into procedural changes and improving health and safety through open discussion with supervisors and during shift and safety meetings. CC&V also has a system where Opportunities for Improvement (OFI) are entered into a database and tracked to completion. The Safety Department also recently introduced the Safety Observation program. Workers are encouraged to submit report cards for unsafe or potentially hazardous conditions they observe in the workplace. The observation is entered into a data base tracking system where resolution of the issue is tracked to completion.

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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:

SOPs on Emergency Response, Cyanide Spillage, and HCN Gas stress the importance of maintaining cyanide solutions above pH 10 and to closely monitor pH when levels fall below this. The pH of the cyanide solutions in the ADR Plant are maintained by application of caustic during the batch mixing process, and pre-treatment batch mixing process. In addition lime is added to the leach pads to maintain the alkalinity of the leach solution. The pH of barren and pregnant solutions is monitored through collection and analysis of grab samples. In addition to the sampling program, there are inline pH-meters located at each of the carbon trains that provide backup data if required.

The cyanide related SOPs specify when personal gas-monitoring units must be used for specific operations and when operators or maintenance personnel work in areas where there is a potential for HCN exposure Toxipro personal HCN detectors used. The monitors are calibrated to alarm at 4.7 ppm and 10 ppm. Fixed HCN SensAlert monitoring systems are located in ten areas of the ADR Plant where there is a potential for generation of HCN gas. The systems are each equipped with visual and audible alarms that trigger at 4.7 ppm and 10 ppm. SensAlert readouts boxes are located in the control room where HCN levels may be monitored by process operators. At the time of the audit the readouts ranged for 0.0 to 0.4 ppm. The HCN monitors are maintained and calibrated as recommended by the manufacturer and maintenance records are retained.

Documented procedures are also in place and signage present throughout the ADR Plant and VLF that alert workers to hazards and specify the PPE requirements when performing activities where there may be a potential for exposure to cyanide. Workers have been trained in these procedures, as well as emergency response in the event of a cyanide release.

Placement of warning signage was observed to be generally good. Cyanide warning signs are posted at frequent intervals around the VLF, on the doors of the ADR building and on piping and vessels inside and outside the ADR Plant. Piping containing cyanide was also well marked to show flow direction. With few exceptions, signage was observed to be clean, clear and posted in visible places. Exceptions were noted on overhead piping in the areas of the ADR Plant, where grime made signage illegible. Subsequent to this onsite recertification audit, CC&V modified the inspection procedure

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to provide more guidance to operators with regard to inspection and maintenance of signage. Copies of revised inspection procedure documentation and operator training records were provided to confirm that the procedure had been implemented, as well as photographic evidence showing that the illegible signage had been restored. In addition to signage, procedures require employees not to eat, drink or smoke in the leaching, processing or control room areas and to wash hands before eating and drinking. This requirement is also reinforced during annual refresher training.

Eyewash/shower units are located throughout the ADR Plant where chemicals are handled. The units are checked daily by the process operators during pre-shift safety inspections and monthly during ADR Emergency Equipment inspections. With few exceptions eyewash/ shower operations were recorded as operating correctly. Where issues were identified during inspections, maintenance records indicate that they were dealt with through CC&V's maintenance and repair program. Of approximately 20 shower/eyewash stations at the ADR facility checked during the audit, three, although still functioning in the event of an emergency, were observed to be in need of adjustment (eyewash fountain too low, too high) or repair (flow in one eye piece significantly obstructed). CC&V indicated the flow obstruction had occurred that day and was found to be the result of a clogged filter. CC&V was asked to modify the inspection procedure to include simple guidance criteria to help operators decide when eye-wash station flow should be adjusted. The one station was repaired and the flow at the other two stations was adjusted prior to the auditors leaving the site. Prior to submission of this report the inspection procedure was modified and operators were trained in the use of the revised procedure.

Only ABC type fire extinguishers are located where cyanide is handled. Fire extinguishers are checked monthly during emergency equipment inspections. The units were observed to be easily accessible and were clearly tagged.

First Aid procedures for cyanide are posted at strategic locations about the ADR facility. There is also an emergency response and cyanide exposure procedure that provides information on cyanide exposure symptoms and guidance on first aid treatment. Copies of MSDS of Bulk Chemicals, including sodium cyanide are also provided in the Emergency Response Plan (ERP). Master copies of MSDSs are maintained in the central filing system. The electronic copy is accessible to all employees via the company intranet or through Security. MSDS are in English, the language of the workforce.

CC&V has an incident reporting and investigation procedure that covers all operations, including cyanide handling. The process is also used for reporting and investigating near misses. Incidents are investigated by the supervisor and reviewed by management. Records are maintained on JDE and hard copy by the Safety Department. There have been no cyanide release or safety incidents since the previous audit.

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

- The operation is:
- in full compliance
 - in substantial compliance
 - not in compliance...with Standard of Practice 6.3.

Describe the basis for this Finding/Deficiencies Identified:

Medical oxygen with resuscitators are stored in dedicated and signed cabinets located strategically about the ADR Plant, cyanide unload/mix area, Security office, and metallurgical laboratory. An antidote kit is stored in the Security office located near the ADR Plant and metallurgical laboratory. Daily maximum and minimum temperature records taken in the Security office confirmed that the temperature variation where the kit was stored was within that recommended by the manufacturer. Each department is responsible for completing monthly inspections of safety equipment.

Radio communication plus a visual and audible alarm system provide a means to readily communicate during emergency situations. All process operators, supervisors, and the superintendant are provided with radios. Radios are also located in vehicles and are provided to long-term contractors and TriMac drivers when on site.

CC&V has developed a Cyanide Emergency Response Plan (CERP) which forms an integral part of the ERP for the mine. The Plan describes the standard procedures to be followed in the event of an unplanned release of cyanide. The plan references SOPs for minimizing potential for cyanide releases and worker exposure.

All employees during New Miner Training and at Annual Refresher training are trained in first aid response including cyanide exposure symptom recognition and treatment. First aid is taught by qualified Cripple Creek Emergency Medical Services (CCEMS) staff during the annual refresher training course. The training includes administration oxygen and amyl-nitrite first aid. Where an incident occurs which requires transport of an injured or cyanide exposed person offsite for further medical attention, CC&V uses the local ambulance service (CCEMS) based in Cripple Creek. CCEMS paramedics have been approved by Teller County Emergency Services to administer sodium thiosulphate by injection if required. CCEMS is located approximately 6 minutes away in the event of an emergency. For more serious cases, LifeFlight Helicopter evacuation may be utilized.

Since 2007 CC&V has had an arrangement with the Teller County Emergency Services (TCES) for provision of treatment for cyanide exposure. TCES are well prepared to receive and treat a cyanide-exposed patient at Penrose Hospital in Colorado Springs.

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Mock drills are scheduled annually. The drills are critiqued and recommendations made to improve future emergency response technique. Since the last audit mock drills were performed in August 2008 and October 2009. The 2008 drill simulated an HCN gas release from the ADR Plant in which two victims were missing (one fatal and one man down). The 2009 drill also simulated a missing operator during a HCN release in the ADR Plant. In addition to the mine rescue responders, the drills also involved the crisis management team, and outside emergency services (CCEMS and Victor Fire Department). Although records for the 2008 drill documented that recommendations were being implemented or had been completed, CC&V was unable to provide documentation or other evidence during the audit to demonstrate that additional Mine Rescue Team (MRT) training in use of A-level suits and in familiarization with building search in the ADR plant that was recommended after the 2009 mock drill had been undertaken. Subsequent to the onsite portion of the recertification audit CC&V implemented an online database tracking system to track and resolve recommendations for improvement identified during cyanide drills. Training records were also provided to confirm that MRT training in A-levels suits and building search had been completed.

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:

CC&V have implemented a Cyanide Emergency Response Plan (CERP) that forms an integral part of the mines Emergency Response Plan (ERP). The structure and content of the CERP and ERP has not changed substantially from the June 2007 audit. The CERP considers the potential release scenarios applicable to the site and describes the measures incorporated into the operation to mitigate the potential effects if such a scenario were to occur. The plan takes into account the method of shipment and the form of cyanide transported. It considers only transportation accidents that could occur during transport of cyanide between the gate and the cyanide off-loading pad. It does not address any off-site incident related to transportation of cyanide, as is the responsibility of the seller (CyPlus) as described in the governing Purchase Agreement.

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The CERP includes evacuation actions that should be taken for various scenarios including potential impacts to off-site communities. The plan links to the site-wide ERP and Crisis Communication Plan (CCP) for onsite communication procedures and contacts with community response agencies. The CERP also addresses first response actions, location of antidote, location of emergency equipment, clean up procedures, and mitigation measures. The CERP also has requirements for periodically reviewing, evaluating and revising response procedures.

7.2 Involve site personnel and stakeholders in the planning process.

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

Describe the basis for the Finding/Deficiencies Identified:

The CERP was developed with input from key employees. Potential release scenarios were identified, in part, by Process Department personnel during development of the plan in 2006. The plan is reviewed annually to consider whether any new changes to plant would require modification to the plan. Changes to the site in the past three years have not resulted in a need to consider new scenarios.

CC&V has the same fulltime community relations and emergency response functions noted in the June 2007 audit. CC&V has maintained an aggressive program of public outreach that includes regular meetings with county, city council and local community groups. Local emergency response agencies have received training in applicable CC&V ERP requirements as well as cyanide hazard recognition training from Cyanco representatives. The local police department emergency dispatch holds one of the controlled copies of CC&V's ERP. In the event of a medical emergency involving cyanide exposure Teller County hospital services are well capable of providing treatment.

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:

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The CERP designates primary and alternative emergency response coordinators with the appropriate authority to implement the plan. The emergency response management team, including the emergency response coordinators, undertakes emergency response training as part of annual refresher training. The MRT members are also trained as medical first responders and high angle rescuers and undertake monthly training to hone their skills. The site ERP identifies the mobilization procedures as well as response team members and their contact information. There are flow charts for each class of emergency which identify the role/responsibility of each response team member. Emergency response equipment storage locations are also provided in the ERP; detailed equipment lists are kept at each storage location. Equipment is checked monthly.

The role of outside responders is also described in the ERP, which includes a list of local emergency contacts, roles and responsibilities of the local Fire Department and LifeFlight mine coordinate information. CCEMS are called upon in the event of medical emergencies. The Cripple Creek Fire Department has been briefed on the location of flammable materials and response agreements are in place. The outside emergency responders are invited to participate in annual mock cyanide emergency drills conducted by CC&V.

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 CERP and ERP provide onsite emergency response contact procedures. As described in the plan, the discoverer contacts his/her supervisor to report the situation. The supervisor contacts security and initiates a site wide alarm. Security contacts the primary emergency response coordinator and senior management as necessary. The emergency response coordinator in turn authorizes mine rescue team mobilization. A member of the senior site management other than the primary coordinator is responsible for determining if outside assistance is required. If there is a requirement for outside assistance from local emergency responders or a potential for an emergency to impact outside communities the first point of contact would be the local dispatch at the Cripple Creek Police Department. If evacuation of off-site parties from residences and businesses is required this would be coordinated through the local emergency response agencies. The CERP also includes procedures for contacting the media, as well as downstream water users if the watershed below the VLF (Arequa Gulch) were to be impacted.

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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 CERP specifies that all releases of cyanide to the land will be cleaned up as soon as practicable. The plan stipulates using calcium hypochlorite solution to neutralize the cyanide and to over-excavate the spill area to ensure all impacted material is removed. It includes precautions to prevent the generation and exposure to cyanogen chloride gas. Methods for collection and analysis of samples and environmental monitoring to confirm completion of cleanup are provided in the Spill Response Plan that forms part of the ERP. In the event that a spill of cyanide solution outside the lined area of cyanide-containment, the CERP specifies that soil material generated during spill cleanup would be placed on the VLF. Spilled solutions and carbon granules in the mill would be recycled back in the process. Solid cyanide from spilt briquettes will be shoved or swept up and returned to the ADR process stream, cyanide area, or VLF.

Drinking water supply wells are a considerable distance from the site, and are highly unlikely to be affected by spills. Victor and Cripple Creek are on municipal water supply from reservoir sources. CC&V uses bottled water. There is therefore no provision needed for an alternate drinking water source. In the event of a spill to Arequa Gulch samples of the released solution would be collected if possible, at established locations, and downstream as close to the point of entry. The CERP prohibits attempts to oxidize, neutralize or otherwise treat cyanide once it has entered surface water.

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:

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The ERP and CERP are reviewed annually. The contact lists in the ERP are reviewed and updated monthly. The EMS Administrator is responsible for managing and tracking these updates and physically updating each of the controlled copies of the ERP. The ERP and CERP were last updated in June 2010.

Mock drills are conducted annually and as discussed in Section 6.3 mock drills undertaken since the last audit were performed in 13 August 2008 and 7 October 2009. A table top drill was also undertaken in November 2009.

The CERP is required to be reviewed and revised as necessary after any incident and following annual mock cyanide emergency drills. Although no cyanide related incidents have occurred since the 2007 audit, review of an incident of a non-work related death of a contract worker in 2009 showed that a number of changes were made to the roles and responsibilities of the emergency response team following analysis of the incident response and the ERP was updated accordingly followed by a table top drill to test how the changes were being implemented.

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:

CC&V trains all employees in cyanide hazard recognition as part of new hire training. All contractors are required to view a video that speaks to cyanide management issues and hazard recognition, which is accompanied by hands-on training if they are working in an area involving use of cyanide. In critical process areas operators undertake on the job task training in standard operating procedure requirements. This training is undertaken by experienced operators and supervisors. A worker is not permitted to be assigned tasks until he/she has completed task training and has been certified in that task by a supervisor. Annual refresher training is provided to all process personnel and mine rescue team personnel. New hire and annual refresher training includes cyanide hazard awareness, cyanide exposure symptoms, emergency response and first aid. The CCEMS ambulance paramedics also attend the training sessions and provide the first aid training. Records of new hire, refresher, and task training are maintained, and training is tracked on an on-line database.

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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:

As noted in Section 8.1, all process operations workers are required to complete task training in standard operating procedures. All processes involving the use of cyanide are documented as standard operating procedures administered under the CC&V ISO 14001 EMS. These procedures form the basis of operator training. Task training is provided by experienced operators and supervisors approved by the Process Operation Superintendent. CC&V has no formal examination or testing procedure for evaluating effectiveness of training. Employee competence is monitored through task observation during and after training.

Annual refresher training is provided by the Senior Safety Coordinator, an experienced safety trainer. The Manager, Environmental Resources presents refresher training sessions on environmental management, emergency response and spill control. In June 2010, the safety trainer attended a cyanide train-the-trainer course provided by Cyanco. Paramedics from CCEMS, also provide a first aid training session as part of the annual refresher training.

Additionally, employees participate in annual emergency response drills; see Sections 7.3 and 7.6 and mine emergency response team members also participate in monthly emergency response training.

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:

The standard operating procedures that form the basis of operator task training address plant operations and procedures to be followed in the event of a release of cyanide. This task training is further developed via annual refresher courses that also include cyanide awareness, emergency response, and first aid procedures in the event of worker exposure

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to cyanide. Mock drills involving cyanide release scenarios are also conducted annually. The 2008 and 2009 mock drills simulated release of HCN gas in the ADR Plant resulting in a cyanide exposure and man-down. The drills involved mill operators and mine rescue team.

Emergency Response Coordinators and mine rescue team personnel undertake the annual refresher training that includes emergency response and first aid. They also participate in the annual mock drills. In addition, the mine rescue team personnel are trained in the use of self-contained breathing apparatus (SCBA) and participate in monthly training in emergency response. Where changes have occurred in emergency response procedures CC&V held table top drills to familiarize the response team in the changes. Such a table top table was held on 17 November 2009 as discussed in Section 7.6.

CC&V has developed a relationship with Teller County Emergency Services. CC&V also has a direct line to the Cripple Creek Police Department's emergency dispatch. The emergency dispatch holds one of the controlled copies of CC&V's ERP. In the event of an emergency the CCEMS ambulance is only about six minutes from the site. In the event of a fire the Fire Departments would respond within minutes of a call. In the event that the patient needs further medical attention, CCEMS or LifeFlight air-medical evacuation services will be called to transfer the patient to the Teller County hospital.

As discussed in Section 6.3, mock drills are scheduled annually. The drills are critiqued and recommendations made to improve future emergency response skills and technique. Since the last audit, mock drills were performed in August 2008 and October 2009. The 2008 drill simulated an HCN gas release from the ADR Plant in which two victims were missing (one fatal and one man down). The 2009 drill also simulated a missing operator during a HCN release in the ADR Plant. The drills involved the Fire Department and CCEMS ambulance service. The critique of the October 2009 mock drill identified that the emergency response team would benefit from additional training in building search, specifically with regard to the ADR Plant, and familiarization with A-level suits. No record was available during the audit to confirm that this training had been undertaken. Subsequent to the onsite recertification audit CC&V provided training records to confirm that this training had been completed.

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.

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Describe the basis for the Finding/Deficiencies Identified:

The community relations management function has not undergone any significant changes since the 2007 audit. CC&V has a Community Relations Manager to ensure that CC&V remains an active and engaged participant in the local and region community. A wide range of opportunities exist for stakeholder communications and questions. As was the case in 2007, CC&V conducts periodic meetings with the city councils of local communities, as well as the Southern Teller County Focus Group. The approval process for Amendment No. 9 to permit M-1980-244 required public meetings at the County level, however, the nature of the county level enquiries and responses was such that State-level meetings were not required.

CC&V maintains and has expanded its website, which includes clear direction on how to contact CC&V management (<http://www.ccvgoldmining.com/Contact/contact.html>) with questions or information requests. Contact information is also routinely provided in the array of background information provided to participants in tours.

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

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

Describe the basis for the Finding/Deficiencies Identified:

Substantial opportunities exist for the operation to interact with and disseminate information to external stakeholders. CC&V continues to conduct periodic meetings that provide the opportunity to interact with the city councils of local communities, as well as the Southern Teller County Focus Group. The approval process for Amendment No. 9 to permit M-1980-244 also required public meetings at the county level. CC&V has expanded its website (<http://www.ccvgoldmining.com>), which provides substantial public information with respect to project history, the overall mine life cycle, the mining process (including use of cyanide), emergency response team functions, OHS and environmental policies, community relations actions and initiatives, and other topics. CC&V has also expanded its tour policy, and routinely arranges both public and private tours of mine operations. CC&V has also created a publicly accessible (except during blasting operations) overlook that permits open visual observation of pit development, overburden placement, and leaching operations.

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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:

CC&V has broadened the range of informative materials provided to tour participants and/or the general public. The CC&V website (<http://www.ccvgoldmining.com>) has been expanded and provides substantial public information on the overall mine life cycle and the mining process, including use of cyanide.

No cyanide releases or exposure incidents have occurred since the June 2007 certification audit. Disclosures of specific details of reportable events are controlled by the ERP in the same manner observed in the 2007 audit. On a case-by-case basis, CC&V may elect to prepare internal and/or external press releases or bulletins associated with such instances, as one of the outcomes of ERP implementation.

With respect to making information on releases and exposure available to the public, all of the release or exposure types identified by the Code (i.e., exposures resulting in hospitalization or fatalities, or releases off the mine site requiring response or remediation or resulting in significant adverse effects to health or environment, or releases that are or cause cyanide limits to be exceeded) would be reported to the Mine Safety and Health Administration, the State of Colorado Department of Natural Resources, and depending on circumstances, various other regulatory agencies and State and local officials). As also noted in the 2007 audit, if a reportable release were to occur, CC&V considers that release of information to the public would be the exclusive purview of the responsible regulatory agency or agencies. Summaries of such incidents may be posted on responsible agency websites or are otherwise available to the public from the agency upon request.

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