

# SUMMARY AUDIT REPORT

## INTERNATIONAL CYANIDE MANAGEMENT CODE

### GOLD MINING OPERATION RECERTIFICATION AUDIT

#### CRESSON PROJECT, COLORADO



Submitted to

**INTERNATIONAL CYANIDE MANAGEMENT  
INSTITUTE**

1400 I STREET, N.W., SUITE 500  
WASHINGTON, D.C. 20005



and

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## UNITS OF MEASURE AND ABBREVIATIONS

ADR	Adsorption, Desorption and Recovery
AGR	Australian Gold Reagents Pty Ltd.
CC&V	Cripple Creek & Victor Gold Mining Company
CEMS	Cripple Creek Emergency Medical Services
CDPHE	Colorado Department of Public Health and Environment
CERP	Cyanide Emergency Response Plan
Code	International Cyanide Management Code (the Code)
Cyanco	Cyanco Company, LLC
DRMS	Colorado Division of Reclamation Mining and Safety
DuPont	E.I. DuPont De Nemours and Company, Inc.
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency
ERP	CC&V Emergency Response Plan/Procedures

## UNITS OF MEASURE AND ABBREVIATIONS (CONTINUED)

HCN	Hydrogen cyanide
HDPE	High-density polyethylene
HSMS	OHSAS 18001 Occupational Health and Safety Management System
ICMC	International Cyanide Management Code
ICMI	International Cyanide Management Institute
kW	Kilowatt
LEPC	Local Emergency Planning Committee
mg/L	milligrams per liter
MLE	Mine Life Extension
MSC	Mediterranean Shipping Company
MSDS	Material Safety Data Sheet(s)
MSHA	Mine Safety and Health Administration
PM	Preventative Maintenance
PPE	Personal protective equipment
ppm	Parts per million
PSSA	Process Solution Storage Area
PVC	Polyvinyl chloride
QA/QC	Quality Assurance and Quality Control
SCBA	Self contained breathing apparatus
SOP	Standard Operating Procedure
TransWood	TransWood Inc.
Trimac	Trimac Transportation Services Inc.
VLF	Valley Leach Facility
WAD	Weak-acid dissociable
WMRS	Workplace Management Reporting System

## 0.0 GENERAL

### 0.1 Operation Contact Information

**Name of Mine:** Cresson Project

**Name of Mine Owner:** AngloGold Ashanti (Colorado) Corp., Manager, Cripple Creek & Victor Gold Mining Company, a Colorado Joint Venture

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

**Name of Responsible Manager:** Mr. Raymond G. DuBois, Vice President and General Manager

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## 0.2 Location and Description of Operation

Cripple Creek & Victor Gold Mining Company (“CC&V”) is a joint venture managed by AngloGold Ashanti (Colorado) Corp. CC&V’s joint venture partners are AngloGold Ashanti (Colorado) Corp. and GCGC, LLC.

The Cresson Project is located in a historical mining district located between the small towns of Cripple Creek and Victor, Colorado on State Highway 67, south-southwest of Pikes Peak (see Figure 1). The mine area and its immediate vicinity have been actively mined since the late 1800s, and contain many abandoned underground workings, head frames, waste rock piles, test pits, and other features associated with historical underground and open pit mining operations.



**FIGURE 1- LOCATION MAP**

The Cresson Project is currently a large open pit operation with a dedicated, synthetic-lined Valley Leach Facility (“VLF”). Pregnant solution from the VLF reports to an Adsorption, Desorption and Recovery (“ADR”) Plant for recovery of gold. Gold is removed from solution by adsorption onto activated carbon, then stripped from the activated carbon to create a concentrated gold solution (desorption), and recovered in an electrowinning circuit, located within the refinery.

The Cresson Project was permitted initially in 1994, and has since undergone several phases of permitting to support mine expansions. In 2012, CC&V received all required approvals for the most recent Mine Life Extension (“MLE”) of the Cresson Project, known as MLE2. Activities permitted under MLE2 are expected to carry operations to approximately 2025 with final reclamation and closure in 2032, and other potential developments are being evaluated, which may result in further extensions. Production rates are envisioned to remain relatively constant at roughly 27 million tons of ore mined annually. CC&V will implement MLE2 with approximately 150 additional employees, which will increase the existing approximate total employment at the Cresson Project to an anticipated 600 employees.

Under MLE2, processing and recovery of the additional gold reserves will be supplemented with the construction of a new milling facility (the High Grade Mill) for processing higher-grade ore via grinding, flotation, and Carbon-in-Pulp circuits with final gold recovery continuing to occur at the existing Arequa Gulch ADR Plant. Additionally, as part of this expansion, CC&V will construct a new VLF in Squaw Gulch (the Squaw Gulch VLF) with a new ADR plant (the Squaw Gulch ADR Plant). In addition to these MLE2 projects, at the time of this 2013 International Cyanide

Management Code (“ICMC” or “Code”) recertification audit, CC&V was constructing the Process Solution Enhancement System, a new treatment plant (located near the existing Arequa Gulch ADR Plant) designed to improve gold recovery by removing a persistent accumulation of metal precipitate solids in the VLF process solution and allowing a more sustainable and even distribution of barren solution onto the VLF. Nonetheless, only the initial construction stages were underway for the new facilities proposed under MLE2, and construction of the Process Solution Enhancement System plant was not complete; therefore, this audit does not consider nor discuss these facilities further.

Subsequent to the 2010 ICMC recertification audit, CC&V expanded the Phase 5 portion of the Arequa Gulch VLF ore storage area and constructed the E-Train and Enrichment Pump Station facilities at the Arequa Gulch ADR Plant. The existing Arequa Gulch ADR Plant building was expanded to the west to accommodate the new E-Train carbon column circuit, which consists of five new columns. The Enrichment Pump Station building was constructed to the east of the Arequa Gulch ADR Plant, and houses five large, vertical turbine pumps for returning enriched process solution to the Phase 5 VLF area. CC&V upgraded the solution enrichment circuit to allow the option of routing pregnant solutions from the Phase 1 through Phase 4 VLF areas directly to the Phase 5 VLF area to further enrich gold concentrations in the solutions prior to being sent to the Arequa Gulch ADR carbon trains.

Now complete, Phase 5 provides an additional six million square feet of lined area, located adjacent to and northeast of Phase 4, and a new dedicated Process Solution Storage Area (“PSSA”). As part of the Phase 5 extension, CC&V plans to increase the maximum depth of stacked ore to 800 feet above the lined surface on Phase 1 through Phase 4 areas. Ore stacked within the Phase 5 area will have a maximum depth of 590 feet.

### 0.3 Cyanide Facilities

The active cyanide facilities at the Cresson Project consist of the following:

- Cyanide Offload/Storage Facility (includes Cyanide Mix Tank and Cyanide Storage Tank);
- Arequa Gulch VLF – Phases 1 through 5 (includes pump stations at Phases 1, 2, 4 and 5);
- External Storage Pond;
- Pregnant Solution Distribution Tank;
- Arequa Gulch ADR Plant (includes Carbon Trains A through E, associated wash/strip circuits and process tanks/vessels);
- Barren Solution Tank;
- Enrichment Solution Tank;
- Enrichment Pump Station; and
- Associated concrete and lined secondary containment structures, process solution transfer pipes, valves, and pumps.

The Cyanide Offload/Storage Facility is located adjacent to the Arequa Gulch ADR Plant building, on its west side. The facility consists of a curbed, concrete loading apron for staging the cyanide delivery trucks/trailers and an

adjacent concrete containment area occupying the Cyanide Mix Tank and the Cyanide Storage Tank. The cyanide tanks are designed to work interchangeably; i.e., either tank can be used for mixing or storage.

The Arequa Gulch VLF is comprised of a synthetic-lined leach pad with multiple PSSAs. The active portion of the Arequa Gulch VLF has been constructed in five contiguous phases (Phases 1 through 5) over the period 1994 through 2012 (including all expansions and modifications). With the exception of the Phase 3 pad area, each Phase of the Arequa Gulch VLF has a dedicated, internal PSSA (i.e., a pregnant solution pond located within the heap). The PSSAs are constructed with a composite liner system comprised of a double synthetic-liner underlain by a soil liner. Pregnant solution from the Phase 3 pad area reports to the Phase 2 PSSA via the Drain Cover Fill material and piping system located above the primary synthetic liner. The Phase 3 pregnant solution flows through a small external solution equalization pond (a.k.a. "Bird Ball Pond") located on the south side of the Arequa Gulch VLF prior to reporting to the Phase 2 PSSA.

A 22-million gallon External Storage Pond is located at the southern (downgradient) side of the Arequa Gulch VLF. With the addition of the Phase 5 PSSA, the excess capacity provided by the External Storage Pond is no longer required for emergency storage of process solution (based on modeled contingency flows and regulatory design criteria), and the pond now serves as a fresh/makeup water storage pond. However, CC&V continues to maintain the pond as a cyanide facility in case the pond is ever needed for emergency storage during an extreme upset condition. This pond does not continually or routinely store process solution and contains only enough precipitation/freshwater to help maintain the pond bottom liner.

Pregnant solution collected in the four active PSSAs (Phase 1, Phase 2, Phase 4, and Phase 5), which each service a particular area of the Arequa Gulch VLF, is pumped to the Pregnant Solution Distribution Tank located on the first lift of the Phase 1 VLF area. The pregnant solution collected in the tank flows via gravity to the carbon adsorption trains in the Arequa Gulch ADR Plant for recovery of gold. A portion of the pregnant solution from the Phase 1 through Phase 4 PSSAs is routed to the Enrichment Solution Tank (located outside, on the north side of the Arequa Gulch ADR Plant building) where it is blended with barren solution and returned to the Phase 5 portion of the Arequa Gulch VLF as enrichment solution, via the Enrichment Pump Station, to further enrich gold concentrations in the solutions prior to being sent to the Arequa Gulch ADR carbon trains.

The Arequa Gulch ADR Plant consists of five active carbon trains (Carbon Trains A through E), an acid wash circuit, a carbon strip and regeneration circuit, and an electrowinning circuit and refinery. The electrowinning cells are located inside the refinery. Barren solution from the recovery circuit reports to the Barren Solution Tank located outside, on the north side of the Arequa Gulch ADR Plant building. Reagent grade cyanide from the Cyanide Storage Tank is injected directly into header pipes adjacent to the Barren Solution Tank and the Enrichment Solution Tank, which convey barren solution to the Arequa Gulch VLF.

The Enrichment Pump Station is a standalone building, located on the east side of the Arequa Gulch ADR Plant building. The pump station houses five large, vertical turbine pumps. No process tanks are located at this facility.



## 0.4 Auditor Information

**Audit Company:** Visus Consulting Group, Inc.

**Audit Team Leader:** Mark A. Montoya, PE, CEA

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**Audit Dates:** September 16 – 20, 2013

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute (“ICMI”) and that all members of the audit team meet the applicable criteria established by the ICMI for ICMC Verification Auditors. I further attest that this Detailed Audit Findings Report accurately describes the findings of the verification audit conducted for the Cresson Project located in Teller County, Colorado and that the verification audit was conducted in a professional manner in accordance with the ICMC Verification Protocol for Gold Mine Operations (dated October 2009) and using standard and accepted practices for health, safety and environmental audits.

FOR VISUS CONSULTING GROUP, INC.



Mark A. Montoya, PE, CEA  
President / Principal  
Lead Auditor and Gold Mining Technical Expert Auditor

## 0.5 Audit Findings

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with the International Cyanide Management Code.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

During the previous three-year audit cycle, CC&V has experienced cyanide releases (i.e., minor releases of cyanide-bearing solutions to soil) and one worker exposure to cyanide incident, which are subject to listing under Question 3 of the ICMC Standard of Practice 9.3. These incidents have not been “significant cyanide incidents” subject to the notification requirements under Item 6 of the ICMC signatory application and do not affect the compliance

status. As detailed under ICMC Standards of Practice 1.1 and 2.2 of this findings report, the operation used non-certified cyanide (i.e., cyanide produced and transported by a facility and transportation chain not certified under the ICMC) during a period following the previous ICMC audit conducted in June 2010. The audit findings reflect this circumstance.

## 0.6 Summary of ICMC Principles and Standards of Practice

For easy reference, **Table 1** below provides a summary of the ICMC Principles and associated Standards of Practice.

Table 1 Summary of ICMC Principles and Standards of Practice for Gold Mining Operations	
PRINCIPLE	STANDARDS OF PRACTICE
1. <b>PRODUCTION:</b> Encourage responsible cyanide manufacturing by purchasing from manufacturers who operate in a safe and environmentally protective manner.	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.
2. <b>TRANSPORTATION:</b> Protect communities and the environment during cyanide transport.	2.1 Establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters. 2.2 Require that cyanide transporters implement appropriate emergency response plans and capabilities, and employ adequate measures for cyanide management.
3. <b>HANDLING AND STORAGE:</b> Protect workers and the environment during cyanide handling and storage.	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. 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.
4. <b>OPERATIONS:</b> Manage cyanide process solutions and waste streams to protect human health and the environment.	4.1 Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures. 4.2 Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings. 4.3 Implement a comprehensive water management program to protect against unintentional releases. 4.4 Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions. 4.5 Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water. 4.6 Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of ground water. 4.7 Provide spill prevention or containment measures for process tanks and pipelines. 4.8 Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications. 4.9 Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and ground water quality.

**Table 1 (continued)**

**Summary of ICMC Principles and Standards of Practice for Gold Mining Operations**

PRINCIPLE	STANDARDS OF PRACTICE
<p><b>5. DECOMMISSIONING:</b> Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities.</p>	<p>5.1 Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.</p> <p>5.2 Establish an assurance mechanism capable of fully funding cyanide-related decommissioning activities.</p>
<p><b>6. WORKER SAFETY:</b> Protect workers' health and safety from exposure to cyanide.</p>	<p>6.1 Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.</p> <p>6.2 Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.</p> <p>6.3 Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.</p>
<p><b>7. EMERGENCY RESPONSE:</b> Protect communities and the environment through the development of emergency response strategies and capabilities.</p>	<p>7.1 Prepare detailed emergency response plans for potential cyanide releases.</p> <p>7.2 Involve site personnel and stakeholders in the planning process.</p> <p>7.3 Designate appropriate personnel and commit necessary equipment and resources for emergency response.</p> <p>7.4 Develop procedures for internal and external emergency notification and reporting.</p> <p>7.5 Incorporate into response plans monitoring elements and remediation measures that account for the additional hazards of using cyanide treatment chemicals.</p> <p>7.6 Periodically evaluate response procedures and capabilities and revise them as needed.</p>
<p><b>8. TRAINING:</b> Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.</p>	<p>8.1 Train workers to understand the hazards associated with cyanide use.</p> <p>8.2 Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.</p> <p>8.3 Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.</p>
<p><b>9. DIALOGUE:</b> Engage in public consultation and disclosure.</p>	<p>9.1 Provide stakeholders the opportunity to communicate issues of concern.</p> <p>9.2 Initiate dialogue describing cyanide management procedures and responsively address identified concerns.</p> <p>9.3 Make appropriate operational and environmental information regarding cyanide available to stakeholders.</p>

## 1.0 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	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 1.1.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

Over the period following the June 2010 ICMC recertification audit to date, CC&V has maintained in good standing its contract with Cyanco Company, LLC (“Cyanco”) for the supply of sodium cyanide (i.e., Cyanide Master Purchase and Sale Agreement, dated September 1, 2002). The current contract expiration date is December 31, 2014.

Under the contract, both parties (Cyanco and CC&V) agree to maintain compliance with the most current version of the ICMC at all times. The most current version of the ICMC is attached as Exhibit B to the contract and is made part of the agreement.

CC&V originally contracted to CyPlus for cyanide supply and delivery services. CyPlus subcontracted to E.I. DuPont de Nemours and Company (“DuPont”) for the solid sodium cyanide necessary to fulfill its contract with CC&V. DuPont manufactured the sodium cyanide at its Memphis, Tennessee facility. In 2008, CyPlus divested its gold mining supply operations in Canada and the United States, and Cyanco assumed ownership and responsibility for the CC&V supply contract as part of its acquisition of the CyPlus North American assets, and continued the subcontract arrangement with DuPont until approximately April 2011. In a letter dated 21 October 2009, DuPont provided Cyanco with notice of termination of its Sodium Cyanide Supply Agreement with Cyanco, and agreed to supply Cyanco with sodium cyanide until April 2011. CC&V is not privy to the agreement between Cyanco and DuPont; therefore, Cyanco did not provide CC&V with an explanation as to why the agreement was terminated.

Consequently, Cyanco also subcontracted to Australian Gold Reagents Pty Ltd. (“AGR”) to fulfill its contract with CC&V, and over the period December 2010 to approximately April 2011, CC&V received cyanide produced by both DuPont and AGR to facilitate the transition. According to documentation provided by Cyanco, DuPont supplied solid cyanide briquettes to Cyanco through April 30, 2011. The agreement between Cyanco and AGR established that AGR would supply solid sodium cyanide briquettes to Cyanco over the period October 1, 2010 to October 1, 2012 at a specified monthly volume.

On October 22, 2012, Cyanco began supplying cyanide produced at its newly commissioned facility in Alvin, Texas. Cyanco confirmed it had enough supply on hand from AGR to maintain supply to CC&V during the 22-day period following the expiration date of the AGR agreement and prior to Cyanco's first shipment of cyanide produced at its Alvin, Texas facility to CC&V. Subsequent to October 22, 2012, Cyanco has been supplying cyanide to CC&V from its Alvin, Texas facility exclusively, with the exception of a brief period in June 2013 when supply was temporarily disrupted due to flooding in the Houston area and a resulting power outage. During the supply disruption, Cyanco provided CC&V with four loads of liquid sodium cyanide (30 percent aqueous solution) produced at its Winnemucca, Nevada facility.

Although the above-mentioned manufacturing facilities were ICMC-certified at the time of this 2013 ICMC recertification audit (as evidenced by the Summary Audit Reports posted on the ICMC website), cyanide received from the Cyanco Sodium Cyanide Solution Production Operations located in Alvin, Texas was not ICMC-certified over the entire delivery period. Cyanco's Alvin, Texas production facility was conditionally certified under the ICMC pre-operational verification protocol on March 6, 2013 and fully certified on November 5, 2013 following an ICMC confirmation audit conducted on January 30 – 31 and April 29 – 30, 2013. The Cresson Project received its first shipment of cyanide produced at the Alvin, Texas plant on October 22, 2012 prior to the March 6, 2013 conditional certification date for that facility. Thus, cyanide that CC&V received from Cyanco's Alvin, Texas plant, produced at that facility prior to March 6, 2013, was not ICMC compliant.

Consequently, prior to submittal of the final version of this report, CC&V developed and implemented procedures for periodically assessing and ensuring that cyanide purchased for use at the Cresson Project is ICMC certified, including provisions to:

- perform necessary due diligence to determine the ICMC certification status of the cyanide producers and transporters, including pertinent production facilities and transportation chains, subcontracted to Cyanco;
- document causes of supply disruptions in certified cyanide (i.e., cyanide produced and transported by an ICMC-certified production facility and transportation chain), including reasons for using a non-certified cyanide supply and the time anticipated until a certified supply can be re-established; and
- notify the ICMI, in accordance with the ICMC Signatory Application, if CC&V can no longer receive certified cyanide and is forced to arrange for an alternate supply not certified in compliance with the ICMC.

On February 27, 2014, CC&V provided a final copy of the new procedure along with written documentation demonstrating that CC&V has implemented the procedure, including the associated training records for responsible personnel. Additionally, CC&V added periodic review of its cyanide purchasing records to the scope of its Internal Audit Procedures. Based on review of this additional objective evidence, in the auditor's professional judgment, CC&V has satisfactorily met the requirements of this Standard of Practice.

The DuPont Sodium Cyanide Production & Packaging Operations located in Memphis, Tennessee were originally certified in 2006, recertified in 2009, and most recently recertified on April 30, 2013. The Cyanco Sodium Cyanide Solution Production Operations located in Winnemucca, Nevada were originally certified in 2006, recertified in

early 2010, and most recently recertified on July 12, 2013. The AGR Australian Kwinana Production Facility located in Kwinana, Western Australia was originally certified in 2007 and recertified on November 24, 2010.

Because Cyanco's Alvin, Texas facility was audited under the ICMC pre-operational verification protocol on February 6-7 and March 22, 2012, and recommended for certification (full compliance) prior to its commissioning and production of cyanide, no immediate or substantial risk to health, safety or the environment was deemed to exist during the period that CC&V was receiving uncertified cyanide or during implementation of the new procedures stated above. Nonetheless, it should be noted that under the terms of the ICMC Signatory Application, the Applicant agrees to notify ICMI if any of its certified gold mining operations can no longer receive "certified cyanide", and must arrange for an alternate supply that is not certified in compliance with the ICMC. CC&V was unaware that the cyanide received from Cyanco's Alvin, Texas Plant between October 22, 2012 and March 6, 2013 was not ICMC compliant; therefore CC&V did not provide such notice to ICMI.

Based on conversations with CC&V personnel and review of all evidence, in the auditor's professional judgment, CC&V made a good-faith effort to comply with this ICMC Standard of Practice. CC&V explained that, based on its interpretation of the ICMC, it understood the cyanide produced at Cyanco's Alvin, Texas facility to be ICMC compliant as of May 22, 2012; the date that the independent, third party auditor recommended conditional certification of that facility on the basis of full compliance following the pre-operational audit conducted February 6-7, 2012 and March 22, 2012. For that reason, CC&V did not take further action to purchase cyanide from another certified producer nor notify ICMI that it could no longer receive certified cyanide as stipulated by the terms of the ICMC Signatory Application. Furthermore, CC&V relied upon Cyanco to deliver certified cyanide under the terms of its contract, and (according to information provided to the auditor) in neither case described above did Cyanco inform CC&V that the cyanide delivered was not ICMC compliant, presumably because Cyanco also understood the cyanide to be compliant. CC&V demonstrated that the supply disruption was due to forces beyond its control and has verified the period that it received uncertified cyanide (i.e., approximately 4½ months, from October 22, 2012 to March 6, 2013).

## 2.0 TRANSPORTATION

*Protect communities and the environment during cyanide transport.*

### Standard of Practice 2.1

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

<p>The operation is in</p> <p> <input checked="" type="checkbox"/> Full Compliance  <input type="checkbox"/> Substantial Compliance  <input type="checkbox"/> Non-Compliance         </p>	<p><b>with Standard of Practice 2.1.</b></p>
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***Discussion of the basis for this Finding and any Identified Deficiencies:***

CC&V's contract with Cyanco to supply and transport cyanide to the Cresson Project has not changed since the June 2010 ICMC recertification audit. Nonetheless, the contractual relationships between Cyanco and its supply and transportation subcontractors have changed in the interim. These changes include DuPont terminating its supply of sodium cyanide to Cyanco as of April 30, 2011 and AGR becoming an additional supply subcontractor to Cyanco over the period October 1, 2010 to October 1, 2012 (see Section 1.1 above), which also affected the cyanide transportation supply chain. Even so, Cyanco remains contractually assigned to all responsibilities for cyanide supply and delivery.

Title to, responsibility for, and risk of loss of the cyanide (including spillage and leakage) passes from Cyanco to CC&V upon delivery of the product into the storage tank on the mine site and after the delivery hose has been disconnected from the storage tank. Additionally, Cyanco remains responsible for any product stored (for backup purposes or otherwise) at CC&V's facilities in bulk form such as tanker trailers until such time as Cyanco offloads the product into CC&V's storage tanks. The contract specifies the delivery route and affirms that Cyanco has established and shall maintain, throughout the term of the agreement, an emergency response plan and health and safety work plan that applies to its provision and supply of cyanide until delivery is completed. After delivery, Cyanco has no obligation or responsibility under its response and safety plan or otherwise to CC&V with regard to environmental matters related to the product.

As previously discussed in Section 1.1 above, under the contract, both parties (Cyanco and CC&V) agree to maintain compliance with the most current version of the ICMC at all times, including but not limited to the requirements for third party audits of the seller's manufacturing plants and transportation/handling systems (including audits of third party transportation companies, procedures, routes, etc.) and third party audits of CC&V's facilities and handling procedures.

## Standard of Practice 2.2

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 2.2.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

### Discussion of the basis for this Finding and any Identified Deficiencies:

Cyanco is contractually assigned to all responsibilities for the supply and delivery of cyanide to the Cresson Project. Please refer to Section 1.1 above for an explanation of the subcontract suppliers (i.e., DuPont and AGR) that Cyanco utilized over the period following the June 2010 ICMC recertification audit to fulfill its supply contract with CC&V.

The following supply chains have been utilized since the June 2010 ICMC recertification audit:

- Solid sodium cyanide shipped from DuPont’s Memphis, Tennessee facility to the Cresson Project;
- Solid sodium cyanide shipped from AGR’s Kwinana facility in Western Australia to the Cresson Project;
- Solid sodium cyanide shipped from Cyanco’s Alvin, Texas facility to the Cresson Project; and
- Liquid sodium cyanide solution shipped from Cyanco’s Winnemucca, Nevada facility to the Cresson Project.

Solid cyanide produced at DuPont’s Memphis, Tennessee plant was distributed via rail and truck. The results of the DuPont Consignor Certification Audit and the related due diligence reviews indicate that DuPont and all portions of its US/Canada Road cyanide supply chain have continued to be in full compliance with ICMC requirements. The results of the DuPont U.S. / Canada Rail and Barge Transportation Supply Chain Certification Audit and the related due diligence investigations indicate that DuPont and all portions of its U.S. / Canada Rail & Barge Supply Chain are in full compliance with ICMC requirements.

AGR produces solid sodium cyanide at its Kwinana facility located in Western Australia and trucks the product to Fremantle Port. The AGR Western Supply Chain Certification Audit, which covers this transport leg, was originally certified in 2006, recertified in 2010, and most recently recertified on June 13, 2013. Once the cyanide is unloaded onto ocean vessels, the Cyanco supply chain takes over.

Cyanco has identified the Mediterranean Shipping Company ("MSC") as its ocean transporter in its supply chain. Under the Port of Houston Supply Chain, MSC is the overseas transporter, which ships the overseas containers from the overseas port of departure (in this case Fremantle Port in Australia) to the Port of Houston, located in the United States (i.e., Texas). According to the ICMC website, this supply chain was initially certified on March 6, 2013 based on an ICMC third party audit conducted on February 10, 2012 and April 26, 2012 and was therefore not yet



certified during the period that CC&V was receiving cyanide produced at AGR's Kwinana facility; i.e., between October 2010 and October 2012 (see Section 1.1 above). Under the full supply chain, cyanide is transported from an international production plant to the Port of Houston port. Once received at the Port of Houston, the cyanide is forwarded by truck to the IsoChem transloading terminal located at the port. At the transloading terminal, boxed solid cyanide inside the shipping containers is transferred to ISO tank containers and then forwarded by truck [in this case by Trimac Transportation Services Inc. ("Trimac")] to Cyanco customers (e.g. CC&V). Cyanco's Global Ocean Supply Chain also lists MSC as a carrier; however this supply chain is for transport by road from Cyanco's Alvin, Texas facility to the Port of Houston and then overseas via ship to end users abroad. Additionally, this supply chain was initially certified on March 6, 2013 based on an ICMC third party audit conducted during May and August 2012 and was therefore not yet certified during the period that CC&V was receiving cyanide produced at AGR's Kwinana facility.

Consequently, prior to submittal of the final version of this report, CC&V developed and implemented procedures for periodically assessing and ensuring that cyanide purchased for use at the Cresson Project is ICMC certified, including provisions to:

- perform necessary due diligence to determine the ICMC certification status of the cyanide producers and transporters, including pertinent production facilities and transportation chains, subcontracted to Cyanco;
- document causes of supply disruptions in certified cyanide (i.e., cyanide produced and transported by an ICMC-certified production facility and transportation chain), including reasons for using a non-certified cyanide supply and the time anticipated until a certified supply can be re-established; and
- notify the ICMI, in accordance with the ICMC Signatory Application, if CC&V can no longer receive certified cyanide and is forced to arrange for an alternate supply not certified in compliance with the ICMC.

On February 27, 2014, CC&V provided a final copy of the new procedure along with written documentation demonstrating that CC&V has implemented the procedure, including the associated training records for responsible personnel. Additionally, CC&V added periodic review of its cyanide purchasing records to the scope of its Internal Audit Procedures. Based on review of this additional objective evidence, in the auditor's professional judgment, CC&V has satisfactorily met the requirements of this Standard of Practice.

Over the period between the CC&V June 2010 ICMC recertification audit and this 2013 recertification audit, Cyanco used Trimac almost exclusively to transport cyanide from the Port of Houston (i.e., the IsoChem transloading terminal) and from Cyanco's Alvin, Texas facility to the Cresson Project via truck. Trimac is signatory to the ICMC and has remained certified in full compliance; originally certified on September 16, 2010. During a brief supply disruption at Cyanco's Alvin, Texas facility in June 2013 (see Section 1.1 above), Cyanco provided CC&V with four loads of liquid sodium cyanide solution produced at its Winnemucca, Nevada facility. TransWood Inc. ("TransWood") transported the product from the Cyanco plant to the Cresson Project via truck. TransWood is signatory to the ICMC and has remained certified in full compliance; originally certified in 2006, recertified in 2010, and most recently recertified on July 12, 2013.

Based on conversations with CC&V personnel and review of all evidence, in the auditor's professional judgment, CC&V made a good-faith effort to comply with this ICMC Standard of Practice. The Port of Houston Supply Chain was initially certified on March 6, 2013 and CC&V is not currently receiving cyanide produced by AGR; therefore, no immediate or substantial risk to health, safety or the environment was deemed to exist during the period that CC&V was receiving uncertified cyanide or during implementation of the new procedures stated above. Nonetheless, it should be noted that under the terms of the ICMC Signatory Application, the Applicant agrees to notify ICMI if any of its certified gold mining operations can no longer receive "certified cyanide", and must arrange for an alternate supply that is not certified in compliance with the ICMC. CC&V was unaware that the supply chain from Fremantle Port to the Port of Houston was not yet certified during the period that CC&V was receiving cyanide produced at AGR's Kwinana facility; therefore, CC&V did not provide such notice to ICMI. Additionally, CC&V relied upon Cyanco to deliver certified cyanide under the terms of its contract, and (according to information provided to the auditor) Cyanco did not inform CC&V that the overseas transportation leg was not certified during that period. CC&V demonstrated that the supply disruption was due to forces beyond its control and has verified the period that it received uncertified cyanide.

## 3.0 HANDLING AND STORAGE

*Protect workers and the environment during cyanide handling and storage.*

### Standard of Practice 3.1

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 3.1.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

The facilities for mixing, unloading, and storage of cyanide have been designed and constructed in accordance with cyanide producers' guidelines, applicable jurisdictional rules and sound and accepted engineering practices for these facilities. Typically, solid sodium cyanide (briquettes) is delivered in single, dedicated, stainless steel ISO Containers for a Solid to Liquid System. CC&V employs a cyanide producer-designed dissolution system; i.e., "Solid-to-Liquid System". These facilities are located outside, within the security perimeter of the mine, physically distant from any dwellings or communities and with minimal potential for hydrogen cyanide ("HCN") gas build-up. No incompatible materials were being stored with cyanide solution.

The Cyanide Offload/Storage Facility 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. The two tank foundations are solid mass, concrete pads. Additionally, a high-density polyethylene ("HDPE") liner, sloped to drain to the Arequa Gulch VLF liner system, underlies the entire Cyanide Offload/Storage Facility and the Arequa Gulch ADR Plant. CC&V monitors the continued integrity of the tertiary containment via the Arequa Gulch VLF leak detection systems.

The Cyanide Mix Tank and the Cyanide Storage Tank are both fitted with audible high-level alarms, and tank levels are monitored at the offload area and remotely by Process Operators in the Arequa Gulch ADR Plant control room. During this recertification audit, the auditor determined that CC&V does not perform routine Preventative Maintenance ("PM") on the tank level instrumentation, only corrective maintenance if problems occur. The Instruction Manual for the instrumentation states that it requires no maintenance other than periodic checks and cleaning. The auditor recommended that CC&V implement a formal PM task to perform the checks and cleaning annually.

## Standard of Practice 3.2

***Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.***

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 3.2.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

### ***Discussion of the basis for this Finding and any Identified Deficiencies:***

CC&V receives solid cyanide transported to the site in dedicated, reusable, stainless steel ISO containers and can also accept liquid cyanide delivered in tanker trucks, if necessary. The ISO containers are used only for the delivery and mixing of cyanide using the "Solid-to-Liquid System"; thus, there are no empty cyanide containers that require treatment or disposal. Typically, two ISO tanks remain on site (i.e., one parked on the offload apron and one parked next to the Cyanide Offload/Storage Facility within the HDPE-lined area). When Trimac delivers a new cyanide shipment, the drivers offload (mix) the ISO tank parked on the offload apron. Following the mix, Trimac parks the newly delivered ISO tank trailer on the offload apron and returns the empty back to the manufacturing facility. If Trimac is unable to be on site when the process circuit requires fresh cyanide, CC&V operators mix the ISO tank parked on the offload apron.

After mixing and following triple rinsing, the access port on top of the tank is opened and visually inspected to ensure that all tank contents have been dissolved. The port is then secured and the tank washed as necessary prior to its return to the production facility. Additionally, CC&V conducts a thorough inspection of the top and sides of the trailer ensure that spillage or leaks did not occur during unloading and disconnecting.

CC&V implements Standard Operating Procedures ("SOPs") associated with unloading and mixing operations, which provide instructions regarding operation of the "Solid-to-Liquid System" and unloading/mixing the ISO container contents. The SOPs provide detailed instructions for the safe operation of valves and couplings and address response and remediation measures for cyanide spills. The delivery drivers are primarily responsible for operation of the system and CC&V personnel provide oversight at the beginning and end of each mix, and monitor tank volumes remotely from the Arequa Gulch ADR control room. As discussed in Section 1.1 above, in June 2013 Cyanco provided CC&V with four loads of liquid sodium cyanide produced at its Winnemucca, Nevada facility when supply from its Alvin, Texas facility was temporarily disrupted. CC&V provided documentation verifying that it took proper actions to prepare for the delivery of liquid cyanide, including a modified procedure and verification of proper fittings and personal protective equipment ("PPE").

CC&V personnel provide oversight at the beginning and end of each mix, and monitor tank volumes remotely from the Arequa Gulch ADR control room. The procedure requires use of the "buddy-system" during connection and disconnection of the ISO tank. During the transfer process, the CC&V operator may leave the unloading area, but

must ensure that the driver is equipped with an operating handheld radio. Additionally, the procedure requires use of prescribed PPE including the requirement for use of portable HCN detectors.

## 4.0 OPERATIONS

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

### Standard of Practice 4.1

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 4.1.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

CC&V has developed, implemented and maintained written management and operating plans and procedures for its cyanide facilities, which include cyanide management contingency procedures, and evidence indicates that the procedures have been in effect over the past three years between ICMC audits. CC&V manages the operating procedures specific to the cyanide facilities as part of its certified ISO 14001 Environmental Management System (“EMS”) and certified OHSAS 18001 Health and Safety Management System (“HSMS”). These written procedural documents cover the CC&V cyanide facilities and provide measures for managing cyanide in a manner that prevents or controls releases to the environment and exposures to workers and the community. The SOPs identify required PPE and the risks involved with the operating tasks, and adequately describe safe work practices. Additionally, the regulatory permits for the Cresson Project stipulate operating requirements for the process facilities.

The regulatory operating permits for the Arequa Gulch VLF and ADR Plant identify the assumptions and parameters on which the facility designs are based and the design reports incorporate the regulatory criteria required by these operating permits. The Mining and Reclamation Permit application includes the design and operational criteria for the Arequa Gulch VLF and ADR Plant. The Wildlife Protection Plan provides preventative measures for protecting wildlife mine wide. The plan also outlines inspection and reporting procedures.

CC&V procedures provide routine inspection and maintenance programs and address proper management of process solutions at the Arequa Gulch VLF to retain the design storage capacities. Additionally, these inspections cover process tanks, secondary containments, leak detection systems, pipelines, pumps, and valves for structural integrity and signs of corrosion and leakage. Principally, the Mining and Reclamation Permit serves as the operating manual for the Arequa Gulch 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, groundwater, leak detection systems, solution collection systems,

underdrain systems, and the PSSAs and External Storage Pond. The environmental and operational inspection programs involve inspections conducted each shift, daily, three times each week, weekly, monthly, quarterly and annually. The PM program also ensures that the cyanide facilities are operating within the design parameters. CC&V conducts weekly inspections to ensure that preventative measures (i.e., deterrent systems) are in place to protect wildlife. CC&V Environmental personnel interviewed during this onsite recertification audit described the wildlife mortality inspection frequency as daily, at minimum.

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. CC&V also conducts/receives several audits or reviews to ensure the safe and environmentally sound operation of its facilities.

Inspection forms and checklists document the nature of deficiencies and in most cases reference the corrective maintenance work order issued, as necessary. Records of inspection forms and checklists were available for review during this recertification audit. CC&V had retained records of the noted inspection checklists and forms over the three-year period following the 2010 ICMC recertification audit, with the exception of the “VLF Operational Walk-Thru and Safety Work Area Inspection” forms, which were missing for the year 2012.

Consequently, to correct the record management and record retention issue and to prevent recurrence of this issue in the future, following the field component of this audit, CC&V issued a site-wide corrective action pursuant to its EMS regarding record management. Prior to submittal of the final version of this report, CC&V provided documentation demonstrating completion and implementation of the site-wide corrective action, as documented on the CC&V Corrective Action Request Form. This documentation included the procedures developed and updated by CC&V as part of the implementation process for its site-wide corrective action as well as evidence that the procedures are being followed. More specifically, evidence provided includes:

- Updated versions of the HSMS and EMS Record Management Procedures identifying site-wide records that are maintained outside the Environmental and Safety departments along with a site-wide record matrix used to track key records required by the ICMC;
- Updated versions of the CC&V internal management system audit procedures (both HSMS and EMS);
- Records of interim records checks (a review of records performed on December 13, 2013);
- Records of monthly email reminders to record keepers requesting verification that key records were generated and have been maintained and managed pursuant to the Record Management Procedures; and
- A copy of the CC&V Corrective Action Request Form officially closed out on February 26, 2014.

Based on review of this additional objective evidence, in the auditor’s professional judgment, CC&V has satisfactorily met the requirements of this Standard of Practice. CC&V performed a review of records for 2013 to

verify that various departments are maintaining records in accordance with the CC&V Records Management Procedures. Furthermore, CC&V will verify the effectiveness of actions taken during the next internal audit for the ISO 14001 and OHSAS 18001 management systems. Therefore, no immediate or substantial risk to health, safety or the environment was deemed to exist during implementation of this corrective action.

CC&V manages its PM program using software, which automatically produces PM work orders on an established schedule. The software system identifies future activities for regular preventive maintenance and includes information on the task requirements and completion. PM instructions are generated as an inspection checklist, and Maintenance personnel perform inspections on this basis. CC&V documents maintenance inspections by the PM work orders, which reside electronically and are also kept in hard copy format.

CC&V has implemented a “change management” procedure, which outlines a set of guidelines to follow when changes to operations occur, whether planned or unplanned, to ensure that significant environmental, health and/or safety impacts are considered in advance of operational changes. CC&V requires employees involved in operational changes to be familiar with this procedure and to notify the Environmental Resources department of changes that have the potential to impact the environment and to notify Safety of changes so that potential risks and or hazards associated with such changes may be evaluated.

The primary power source for the CC&V operation is overhead line power from the local grid. However, CC&V maintains six diesel-powered generators at the Arequa Gulch ADR Plant as backup power sources; sufficient to power all process pumps and equipment (i.e., the Arequa Gulch ADR Plant and VLF remain fully operational during line power outages). CC&V performs routine electrical and mechanical PM inspections on the generators.

## Standard of Practice 4.2

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

The operation is	<input checked="" type="checkbox"/> not subject to	Standard of Practice 4.2.
	<input type="checkbox"/> in Full Compliance with	
	<input type="checkbox"/> in Substantial Compliance with	
	<input type="checkbox"/> in Non-Compliance with	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

This Standard of Practice is not applicable, as the Cresson Project is a heap leach operation and does not currently operate a mill.



## Standard of Practice 4.3

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 4.3.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

### **Discussion of the basis for this Finding and any Identified Deficiencies:**

CC&V has developed a comprehensive, probabilistic, dynamic water balance model, using GoldSim© software, which tracks water flow throughout the engineered water management facilities at the site. The water balance 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 at a 95 percent confidence level, the 100-year, 24-hour design storm event, and available pore space of the ore within the PSSAs. The model simulates climatic data inputs for precipitation and evaporation; ore loading, facility volumes, areas of coverage, and phases; material properties for initial moisture contents, field capacity, leaching moisture, and moisture uptake; process solution flows from the PSSAs to the Arequa Gulch ADR Plant; and solution application rates. CC&V commissions outside consultants to manage and refine the GoldSim© model as operations change. More specifically, the GoldSim© model is developed/refined for permitting/design purposes and is included in the Mining and Reclamation Permit application.

Based on the GoldSim© model, CC&V has developed a spreadsheet-based model designed to track water balance on a daily basis. Key objectives of the operational water balance are to maintain an optimum water balance, which maximizes gold production; minimize water use; avoid discharge situations; optimize cyanide use; and to maintain the internal/external pumping systems so that pumps do not cavitate. The operational model, which is maintained and reviewed daily by the Chief Metallurgist, considers ore moisture, precipitation, freshwater makeup to the Arequa Gulch ADR Plant and barren solution tanks, pump back from Arequa Gulch (underdrain flows) and the External Storage Pond, evaporation and ore take up.

Pursuant to the Mining and Reclamation Permit, CC&V monitors these parameters regularly and deviations from these criteria require further action. Operations personnel monitor solution levels and measure flows on a daily basis and provide results to the Chief 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. The stormwater diversion along the southwest side of the Arequa Gulch VLF is inspected on a quarterly basis according to the Stormwater Management Plan.

The Arequa Gulch VLF is designed to have sufficient storage capacity to simultaneously contain the normal process solution operating inventory, draindown resulting from a 12-hour power outage, solution accumulation due to seasonal climatic variation at a 95 percent confidence level, the 100-year, 24-hour storm event, available pore

space of the ore within the PSSAs while maintaining required freeboard. Because the PSSAs are in-heap storage ponds, the primary operating criteria is to maintain solution levels in each PSSA at 80 percent capacity or less. Additionally, the hydraulic head on the secondary liner is maintained at two feet or less. The External Storage Pond is no longer required for emergency storage of process solution (based on modeled contingency flows and regulatory design criteria), and the pond now serves as a fresh/makeup water storage pond. However, CC&V continues to maintain the pond as a cyanide facility in case the pond is ever needed for emergency storage during an extreme upset condition. This pond does not continually or routinely store process solution and contains only enough precipitation water to help maintain the pond bottom liner.

CC&V collects precipitation data from an onsite meteorological station located near the southwest perimeter of the Arequa Gulch VLF, near the Phase 2 PSSA. The Environmental Resources department compiles daily summaries of the data for input to the water balance model on a monthly or more frequent basis.

### Standard of Practice 4.4

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 4.4.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

Phase 3 pregnant solution flows through a small external solution equalization pond (a.k.a. “Bird Ball Pond”) located on the south side of the Arequa Gulch VLF prior to reporting to the Phase 1 PSSA. This small pond, which is fenced and covered by HDPE bird balls, is the only facility in which open cyanide-bearing solutions could occur. However, CC&V indicated that, based on the current configuration and operation of the Arequa Gulch VLF, the pond will most likely no longer receive solution. Data reviewed during this onsite recertification audit demonstrate that weak-acid dissociable (“WAD”) cyanide concentrations in the Phase 3 pregnant solution are typically below 10 milligrams per liter (“mg/L”). During this onsite recertification audit, CC&V provided water quality data for solution collected in the external equalization pond over the period January 5, 2010 through May 1, 2012. WAD cyanide concentrations ranged between 0.021 mg/L and 1.87 mg/L. From July 1, 2010 through May 1, 2012, the pond was dry.

The External Storage Pond is no longer required for emergency storage of process solution (based on modeled contingency flows and regulatory design criteria), and the pond now serves as a fresh/makeup water storage pond. However, CC&V continues to maintain the pond as a cyanide facility in case the pond is ever needed for emergency storage during an extreme upset condition. This pond does not continually or routinely store process solution and contains only enough precipitation water to help maintain the pond bottom liner. CC&V samples this water for

cyanide if process solution is introduced, which has not occurred over the past three years following the 2010 ICMC recertification audit. Cyanide is destructed via a hydrogen peroxide injection system in cases where process solution must be transferred to the External Storage Pond during an upset condition. Nonetheless, this pond is fenced and equipped with an audible hazing system.

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 continuing to explore 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.

Observations made during this 2013 ICMC recertification audit, 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. According to wildlife mortality records reviewed and CC&V Environmental personnel interviewed during this onsite recertification audit, no cyanide-related wildlife mortalities have occurred since the June 2010 ICMC recertification audit. CC&V provided evidence of documentation completed for the nine wildlife incidents that have occurred over the past three years, none of which were cyanide-related.

## Standard of Practice 4.5

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 4.5.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

### **Discussion of the basis for this Finding and any Identified Deficiencies:**

The nearest perennial surface water body to the operation is Cripple Creek, which is approximately two miles south. In compliance with the provisions of state and federal water quality regulations, CC&V is authorized to discharge to Arequa Gulch at two outfalls in accordance with effluent limitations, monitoring requirements and other conditions set forth in the Discharge Permit for Arequa Gulch. The discharge limitation for WAD cyanide at the outfalls is 0.02 mg/L and the Arequa Gulch "use protective status" is Cold Water 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.

There have been no direct discharges under the Discharge Permit for Arequa Gulch over the past three years following the 2010 ICMC recertification audit. Additionally, the Cresson Project has not experienced any indirect

discharges over the three-year period between ICMC recertification audits that have caused cyanide concentrations in surface water to rise above protective standards.

CC&V currently monitors surface water quality at six compliance points surrounding the operation and provides quarterly sampling results to DRMS. Surface water quality data for the period January 4, 2010 through July 10, 2013 were reviewed during this onsite recertification audit. The data demonstrate that, over this period, WAD and Free cyanide concentrations at all monitoring locations were below the detection limit (<0.01 mg/L).

## Standard of Practice 4.6

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

<p>The operation is in</p>	<input checked="" type="checkbox"/> Full Compliance <input type="checkbox"/> Substantial Compliance <input type="checkbox"/> Non-Compliance	<p>with Standard of Practice 4.6.</p>
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### **Discussion of the basis for this Finding and any Identified Deficiencies:**

The Arequa Gulch VLF is a zero discharge facility and currently employs four internal PSSAs (Phases 1, 2, 4 and 5). Solution within the PSSAs is piped to the beneficiation facilities at the Arequa Gulch 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 drainage cover fill material. Additionally, the Arequa Gulch VLF is equipped with leak detection and collection systems.

The collection systems are continuously monitored and pumped to ensure that less than two feet of hydraulic head is placed on the lower synthetic liner. The entire Arequa Gulch VLF area is underlain by a leak detection system placed on the graded and prepared subgrade prior to placement of the soil liner. The PSSAs have adequate storage to handle the operating solution level, the 12-hour draindown level if there is no pumping of solution from the PSSAs, precipitation from a 100-year, 24-hour storm event, 95 percent of the mean monthly precipitation at the site, solution retained in the field capacity of the ore contained within the PSSAs while maintaining the design freeboard.

A geomembrane liner connected to the Arequa Gulch VLF liner system underlies the entire Arequa Gulch ADR Plant area, including the Cyanide Offload/Storage Facility. The liner serves as tertiary containment for the concrete secondary containment facilities provided at the offload and plant. The Cyanide Offload/Storage Facility, located adjacent to the Arequa Gulch 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 monitoring of groundwater downgradient of the operation and of leak detection and solution collection systems to ensure that the facility is functioning as designed and protective of the environment. Groundwater quality is regulated by DRMS in accordance with the Mining and Reclamation Permit. The regulatory numerical standard for cyanide in groundwater, applicable to the Cresson Project, is 0.20 mg/L WAD cyanide. During this recertification audit, the auditor reviewed quarterly groundwater monitoring data for the period January 19, 2010 through September 4, 2013. Over this period, WAD cyanide concentrations at all compliance wells were less than the detection limit (<0.01 mg/L).

### Standard of Practice 4.7

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 4.7.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

All cyanide storage and process tanks at the Cresson Project are provided with concrete and/or lined secondary containment with adequate capacity to hold a volume greater than that of the largest tank within the containment and any piping draining back to the tank, and with additional capacity for the design storm event. Concrete floors, curbs, and containment walls provide secondary containment for all process tanks located inside the Arequa Gulch ADR Plant building. These concrete secondary 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 Arequa Gulch ADR Plant has an overflow sump that reports to the Arequa Gulch VLF lined containment area. This sump drain always remains open. The process tanks and vessels inside the Arequa Gulch ADR Plant are set on solid mass, concrete pads or are supported above the floor by steel structures.

Process tanks located outside the Arequa Gulch ADR Plant building and offload containment, include the Barren Solution Tank, the Enrichment Solution Tank and the Pregnant Solution Distribution Tank. The barren and enrichment tanks are located outside, on the north side of the Arequa Gulch ADR Plant building, within the lined area. The tank foundations are solid mass, concrete pads. The Pregnant Solution Distribution Tank is located on the first lift of the Phase 1 Arequa Gulch VLF area.

The Cyanide Offload/Storage Facility 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. The two tank foundations are solid mass, concrete pads.

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

All process solution pipelines at the Cresson Project are located within concrete or geomembrane-lined secondary containment. Additional containment measures include differential flow/pressure and interlock systems. All pipelines are located above ground with the exception of the short segment of drainpipe running from the Arequa Gulch ADR Plant overflow sump to the Arequa Gulch VLF. However, this pipe is located above the geomembrane underliner system, which drains to the Arequa Gulch VLF.

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.

## Standard of Practice 4.8

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 4.8.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

### ***Discussion of the basis for this Finding and any Identified Deficiencies:***

Please refer to Section 0.3 above for a list of the active cyanide facilities at the Cresson Project and to the previous ICMC Summary Audit Reports (September 2007 and September 2010) for the construction quality assurance and quality control ("QA/QC") programs implemented for the cyanide facilities in operation during those audits.

New cyanide facilities and modifications to existing cyanide facilities constructed subsequent to the 2010 ICMC recertification audit, include:

- Phase 4B/C Triangle Liner Certification (construction completed just prior to 20120 ICMC recertification audit);
- Construction of Phase 5 of the Arequa Gulch VLF (construction was ongoing during the 2010 ICMC recertification field audit);
- Construction of the Phase 5 Arequa Gulch VLF Ore Storage Area;
- Construction Phase 5 Arequa Gulch VLF Berm Modification;

- Construction of the Process Solution Enhancement System;
- Extension of the liner system at the Arequa Gulch VLF Load Out Bin; and
- Construction of new carbon train at the Arequa Gulch ADR Plant (Train E) and Enrichment Pump Station.

CC&V implemented QA/QC programs during the construction of these facilities as documented by construction and turnover reports. The construction QA/QC programs conducted for the VLF components and Process Solution Enhancement System address earthworks construction, geosynthetics installation, and all related facility systems. CC&V provided redlined construction drawings for the E-Train building addition and the Enrichment Pump Station building along with the turnover and final completion letters for these facilities. Appropriately qualified personnel reviewed cyanide facility construction and provided documentation that the facilities were built as proposed and approved.

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 is archived in hardcopy format and resides in the Environmental Resources Manager's office. During this 2013 ICMC recertification audit, CC&V provided a listing of all QA/QC documentation associated with the Cresson Project, which covers the period 1994 through 2012.

## Standard of Practice 4.9

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 4.9.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

### ***Discussion of the basis for this Finding and any Identified Deficiencies:***

CC&V has prepared and implemented written standard procedures for monitoring activities to evaluate the effects of cyanide use on wildlife and water quality. The Environmental Sampling Protocol Guide provides the procedures for monitoring and sampling groundwater and surface water quality. The protocol covers the Arequa Gulch VLF, PSSAs, the leak detection collection and solution recovery systems, underdrains, and the Arequa Gulch monitoring activities. The Environmental Sampling Protocol Guide for CDPHE Permits describes the sampling protocols that apply to the Arequa Gulch discharge permit. The Wildlife Protection Plan provides preventative measures for protecting wildlife mine wide and outlines inspection and reporting procedures.

The sampling protocol guides described were developed by CC&V personnel using EPA protocols. The protocols are managed and administered by the CC&V Manager, Environmental Resources and the CC&V Environmental Compliance Control Administer. The Manager, Environmental Resources has a Bachelor of Science degree in Applied Science and Technology and over 23 years of professional experience in the environmental field.

CC&V maintains an extensive monitoring network at the Cresson Project in accordance with its Mining and Reclamation Permit and its Discharge Permit for Arequa Gulch. Monitoring is conducted by CC&V professional staff. Samples collected in connection with these monitoring programs are analyzed by qualified third-party, certified laboratories. Appropriate QA/QC procedures are used to validate the sample collection and analytical methods. 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. CC&V documents field sampling conditions for each sampling episode, which is also included on the chain-of-custody forms.

Surface water monitoring is conducted on a quarterly basis at six locations surrounding the operation. In accordance with the Discharge Permit for Arequa Gulch, CC&V checks Outfall 001A 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 15 Compliance Points surrounding the operation, including points located downgradient of the Arequa Gulch VLF.

In addition, regular monitoring of the leak detection and solution collection systems associated with the Arequa Gulch VLF is conducted to ensure that the facility is functioning as designed and protective of the environment. Fluid collected in the leak detection systems is tested for pH and WAD cyanide on a weekly basis. Water levels in the PSSAs and the solution collection systems are monitored at least weekly. Water levels in the leak detection collection and recovery system in the External Storage Pond are monitored at least weekly if process solution is introduced to the pond, and samples are periodically collected for analysis of pH and WAD cyanide.

The Wildlife Protection Plan requires weekly inspections to ensure that preventative measures are in place to protect wildlife. CC&V indicated that the wildlife mortality inspection frequency is daily, at minimum. CC&V personnel are instructed to contact the Environmental Resources department when wildlife mortalities are discovered and to document the details of the incident. Although not a regulatory requirement, the Environmental Resources department notifies the Colorado Parks and Wildlife (formerly Colorado Division of Wildlife) via telephone within 24 hours and documents evidence of the contact via memorandum. A written report is then completed, which includes photographic evidence of the incident. Additionally, the CC&V Monthly Activity Reports document any wildlife mortalities.



## 5.0 DECOMMISSIONING

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

### Standard of Practice 5.1

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 5.1.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

CC&V provides DRMS with a written discussion of its proposed decommissioning procedures as part of its Mined Land Reclamation Permit for the Cresson Project and updates the decommissioning procedures with each permit revision. MLE2 is an extension of the existing Cresson Project operations to allow active mining to continue until approximately 2025, adding roughly nine years to the current mine schedule. The total period of operation and reclamation (including construction) for the Cresson Project under MLE2 is approximately 2012 through 2041. Post closure monitoring is scheduled to continue into 2046 to demonstrate compliance with the required regulatory criteria for WAD cyanide concentrations (0.2 mg/L) in the rinsate.

With each major revision to its Mined Land Reclamation Permit, CC&V updates the reclamation and closure components, including proposed measures and associated costs. These permit revisions also serve as the means to estimate and establish the current financial warranty obligation. CC&V provides this information in its annual reports submitted to DRMS.

### Standard of Practice 5.2

*Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.*

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 5.2.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

The Mined Land Reclamation Permit requires estimation and establishment of a financial warranty for third party decommissioning of all aspects of mine operations, which include all cyanide facilities. The most recent estimate, prepared in January 2012, is included in the MLE2 application, and incorporates current reclamation costs for all aspects of the Cresson Project, including any facility changes to support the planned MLE2. CC&V prepared the estimate assuming that a third party contractor will perform the activities.

The total current posted amount of the financial warranty covers all components of the Cresson Project with the exception of the Squaw Gulch VLF, of which construction has not yet commenced. CC&V will post the additional amount in two separate installments, as agreed to by DRMS, beginning in approximately 2015, to cover the two phases of the Squaw Gulch VLF, which is the last component to be completed under MLE2.

## 6.0 WORKER SAFETY

*Protect workers' health and safety from exposure to cyanide.*

### Standard of Practice 6.1

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 6.1.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

CC&V has developed procedures describing how cyanide-related tasks are to be conducted. These SOPs cover cyanide-related tasks such as, but not limited to, offloading cyanide, plant operations, and maintenance activities that involve the cyanide solution circuits. These procedures document equipment and PPE requirements, potential health and safety hazards including confined space, operator instructions, and pre-work inspections.

Workers are encouraged to provide input into procedural changes and improving health and safety. CC&V has a system where Opportunities for Improvement are entered into a database. A responsible person is assigned to implement the improvement and the project is tracked to completion. The Safety department has also implemented the Safety Observation program. CC&V uses this program to correct safety issues and recognize good practices. Observations are entered into the Workplace Management Reporting System ("WMRS") database where resolution of the issue is tracked to completion. Although encouraged to discuss health and safety procedures openly with supervisors, workers also have the opportunity to table issues at daily safety meetings and monthly safety meetings. Additionally, annual Mine Safety and Health Administration ("MSHA") refresher training solicits employee concerns.

CC&V has implemented a "change management" procedure, which outlines a set of guidelines to follow when changes to operations occur, whether planned or unplanned, to ensure that significant environmental, health and/or safety impacts are considered in advance of operational changes. CC&V requires employees involved in operational changes to be familiar with this procedure and to notify the Environmental Resources department of changes that have the potential to impact the environment and to notify Safety of changes so that potential risks and or hazards associated with such changes may be evaluated.

## Standard of Practice 6.2

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 6.2.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

CC&V SOPs stress the importance of maintaining cyanide solutions above pH 10 to minimize the potential for generation of HCN gas and for closely monitoring the pH when levels fall below this. The potential for HCN generation is monitored via fixed HCN monitors located at strategic areas throughout the Arequa Gulch ADR Plant and inside the Enrichment Pump Station building. CC&V maintains the pH of the cyanide solutions in the Arequa Gulch ADR Plant by application of caustic during the batch mixing process, and pre-treatment batch mixing process. During cyanide pre-treatment and batch mixing processes, procedures require the pH to be above 12. CC&V also adds lime to the leach pads to maintain the alkalinity of the leach solution.

CC&V monitors the pH of barren and pregnant solutions through collection and analysis of grab samples. The "ADR Daily Operating Report" lists the target pH values for pregnant solution, barren solution and enrichment solution as 10.4, 11.5 and 9.6, respectively. Review of records during this 2013 recertification audit, verified that CC&V is maintaining pH at these levels. In addition to the sampling program, there are inline pH-meters located at each of the carbon trains.

CC&V has identified areas of the process where the potential for cyanide exposure is significant and has implemented controls to minimize the potential for exposure of workers. The cyanide-related SOPs specify when personal HCN monitoring units are required for specific tasks. When Process or Maintenance personnel need to work in areas where there is a potential for HCN exposure they wear personal HCN detectors. CC&V has seven personal monitors and thirteen fixed HCN monitors installed at the Arequa Gulch ADR Plant. The personal and fixed monitors are calibrated to alarm at 4.7 parts per million ("ppm") and 10 ppm. The fixed systems are each equipped with visual and audible alarms. CC&V conducts routine maintenance on the HCN gas monitoring equipment, including recalibration of each unit as recommended by the manufacturer and confirmation that the visual and audible alarms are functioning.

CC&V has installed signs advising workers that cyanide is present and of the associated dangers. Cyanide warning signs are posted at frequent intervals around the Arequa Gulch VLF, on the doors of the Arequa Gulch ADR building and on piping and vessels inside and outside the Arequa Gulch ADR Plant. Piping containing cyanide was also well marked to show flow direction. Based on a recommendation by the auditor, following the field component of this audit, CC&V installed signs at all PSSA pump stations and provided photographic evidence demonstrating that a

general warning sign was placed at the entrance to the area and warning labels with flow directions were placed on pipelines.

There are eyewash/shower units are located throughout the Arequa Gulch ADR Plant, two units located at the Enrichment Pump Station, and two units at the Cyanide Offload/Storage Facility. There are also four eyewash kits/stations located throughout the Arequa Gulch ADR Plant. Process Operators check the units daily and monthly. The auditor spot-checked several the shower/eyewash stations during this 2013 recertification audit and identified several eyewashes in need of adjustment or repair; e.g., eyewash fountain too low or too high or flow in one eyepiece significantly obstructed. However, all showers/eyewash stations were functioning and available in the event of an emergency. Following the field component of this audit, CC&V repaired the faulty eyewash stations identified by the auditor and performed an assessment of the inspection program for the shower/eyewash stations to determine if operators are trained to recognize when a shower/eyewash station is not functioning properly and how to check for proper pressure. As part of the assessment, the Process Operators that perform the safety checks received on-the-job training. CC&V provided copies of sign-in sheets demonstrating that the assessment and associated training were performed. Additionally, a representative from the Safety department observed a daily safety walkthrough to ensure that the inspections are performed properly.

In the auditor's professional judgment, CC&V's shower/eyewash inspection and maintenance program implemented over the past three years represents sufficient evidence of the operation's good-faith effort to comply with the provisions of the ICMC. CC&V is inspecting the shower/eyewash stations on a routine basis and there are a number of units located throughout the process areas where cyanide is present. Based on the available units and the procedures and training implemented by CC&V regarding the inspection program, no immediate or substantial risk to health, safety or the environment was deemed to exist during implementation of the inspection assessment performed by CC&V.

Fire extinguishers are primarily ABC dry units in the Arequa Gulch ADR Plant. Only ABC dry units are located where cyanide is handled. CC&V checks fire extinguishers monthly. The units were observed to be easily accessible and were clearly tagged. The monthly inspection records were available covering the past three years between ICMC audits.

The CC&V Environmental Resources department manages Material Safety Data Sheet ("MSDS") information for chemicals used at the Cresson Project, including sodium cyanide. New or revised MSDS received from the supplier are scanned into electronic format and made available to all employees site wide, 24-hours per day, via the CC&V intranet site. MSDS are in English, the language of the workforce. Copies of MSDS of Bulk Chemicals, including Sodium Cyanide are also provided in the CC&V Emergency Response Plan/Procedures ("ERP"). First Aid procedures for cyanide are posted at strategic locations about the Arequa Gulch ADR Plant.

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 appropriate supervisor and reviewed by management. Records are maintained in the WMRS database. Additionally, as a

regulatory requirement, CC&V must complete MSHA reports that include any cyanide-related worker exposures, which require treatment or result in death. Furthermore, CC&V posts summaries of incidents on designated bulletin boards located around the mine.

### Standard of Practice 6.3

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 6.3.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

CC&V stores medical oxygen with resuscitators in dedicated and signed cabinets located inside the Arequa Gulch ADR Plant. Medical oxygen is also available at Carlton Security and in the metallurgical laboratory and is stored in emergency kit bags placed in strategic locations around the mine site, including the Arequa Gulch ADR Plant control room. The cyanide antidote kit is currently stored in the Carlton Security office located near the Arequa Gulch ADR Plant. The kit includes 12 ampoules of amyl nitrite, two vials of sodium thiosulfate, two vials of sodium nitrite and a bottle of activated charcoal. The primary means of communication while on site is the radio system. Cellular and landline telephones are accessible, if needed.

Process personnel complete monthly inspections of the emergency first aid equipment at the Arequa Gulch ADR Plant. Carlton Security personnel inspect the emergency first aid equipment and the cyanide antidote kit at Carlton Security each shift. The CC&V Mine Rescue Team also manages first aid equipment, including the equipment at Carlton Security, the cyanide antidote kit, and emergency kit bags located throughout the mine site. The auditor inspected the locations and spot-checked the condition of first aid equipment during the audit. The medical oxygen was clean and fully charged. The cyanide antidote kit is stored at room temperature and the antidote was current during this ICMC field audit.

Inspection records for the first aid equipment and cyanide antidote kits were complete over the three-year period between ICMC recertification audits, with the exception of the monthly inspections performed by the Mine Rescue Team. These monthly inspection records for the period June 2010 through 2012 were not available for review. Following the field component of this audit, the CC&V Mine Rescue Team was unable to locate the missing emergency equipment inspection records. It was determined that the records were misplaced during a recent transition between CC&V managers (Safety, Health and Security) and between Mine Rescue Team leaders. Consequently, CC&V issued an internal corrective action regarding records management and retention at the site to prevent recurrence of this issue in the future, and based on review of additional objective evidence provided by CC&V prior to submittal of the final version of this report (see Section 4.1 above), in the auditor’s professional judgment, CC&V has satisfactorily met the requirements of this Standard of Practice. CC&V conducts routine

inspections of first aid equipment and cyanide antidote kit. Records for one component of this inspection program could not be located; therefore, no immediate or substantial risk to health, safety or the environment was deemed to exist during implementation of this corrective action.

The CC&V Cyanide Emergency Response Plan ("CERP") is an integral component of the operation's comprehensive ERP. The CERP is specific to cyanide and describes emergency response procedures in the event of an unplanned release of cyanide. The plan covers emergency response scenarios, response actions, response equipment, notification procedures, monitoring and remediation, and incident review procedures. Additionally, CC&V implements a specific SOP, which provides procedures for responding to cyanide exposures.

All CC&V employees are trained in first aid response including cyanide exposure symptom recognition and treatment and CC&V Mine Rescue Team members are trained in emergency medical response. Qualified Cripple Creek Emergency Medical Services ("CCEMS") personnel teach first aid during the CC&V annual refresher training course. The training includes administration of oxygen and amyl nitrite.

CC&V has maintained ongoing dialogue with local hospitals and medical emergency services over the years and Teller County Emergency Services are well prepared to receive and treat a cyanide-exposed patient at Penrose Hospital in Colorado Springs. If an incident occurs, which requires transport of a cyanide-exposed person off site for further medical attention, CC&V would use the local ambulance service (CCEMS) based in Cripple Creek. For more serious cases, air ambulance (helicopter evacuation) may be utilized. The Teller County ambulance service does not carry cyanide antidotes; therefore, if a cyanide exposure victim requires treatment and/or transport via ambulance, CC&V would give ambulance personnel its antidote kit, which would accompany the victim.

CC&V periodically conducts mock drills in accordance with its HSMS Manual and provided documentation of three cyanide-related mock emergency drills conducted subsequent to the 2010 ICMC recertification audit. A drill conducted in 2011 was a joint effort government agency and private sector drill sponsored by the Teller County Office of Emergency Management and the Teller County Sheriff's Office. The drill was produced with input, advice and assistance from the CC&V Mine Response Team, Teller County Sheriff's Office and Cripple Creek Fire Department. The development of the drill followed guidance set forth in the U.S. Department of Homeland Security, Homeland Security Exercise and Evaluation Program. The drill simulated a multi-hazard incident incorporating Law Enforcement, Fire, CCEMS, Hazardous Materials and the CC&V Mine Rescue Team.

Subsequent to the onsite component of the 2010 ICMC recertification audit, CC&V expanded the use of the existing WMRS to include recommendations from mock drills, which are entered into this system and tracked to completion. Observations are closed and archived when corrective actions have been completed. The 2011 mock drill had been entered into the WMRS (Incident and Action Changes Summary); however, records verifying that CC&V implemented or otherwise addressed the corrective actions identified in the other cyanide mock drills were not available for review. CC&V made multiple, unsuccessful attempts to locate the missing records and is confident that the records exist as they were reviewed during the annual OHSAS 18001 third party audit and provided evidence that the ERP is periodically tested through drills. Consequently, CC&V issued an internal

corrective action regarding records management and retention at the site to prevent recurrence of this issue in the future, and based on review of additional objective evidence provided by CC&V prior to submittal of the final version of this report (see Section 4.1 above), in the auditor's professional judgment, CC&V has satisfactorily met the requirements of this Standard of Practice. There is sufficient evidence over the past three years to demonstrate that CC&V has incorporated lessons learned from mock drills, as well as lessons learned from actual incidents into their response planning; therefore, no immediate or substantial risk to health, safety or the environment was deemed to exist during implementation of this corrective action.



## 7.0 EMERGENCY RESPONSE

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

### Standard of Practice 7.1

**Prepare detailed emergency response plans for potential cyanide releases.**

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 7.1.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

CC&V has evaluated the potential for cyanide releases and related exposures at the Cresson Project and the CC&V ERP serves as a guide for responding to site-wide emergencies. The ERP guides the user to the specific response plans implemented at the Cresson Project, which include the Code 90 Red Response Plan, Crisis Communication Plan, Spill Response Plan, CERP, Fire Protection Plan, and the Geotechnical Code 90. Controlled copies of the ERP and supporting response plans are contained in common, three-ring binders, which reside at CC&V's Victor Administration Office, Denver Corporate Office, Ironclad Coordinator's Office, in the Ajax Conference Room (Critical Event Box), with the Mine Rescue Team, at the Carlton Security Office and with the Emergency Preparedness Director for Teller County. The Mine Rescue Team keeps a copy in the Mine Rescue Vehicle.

The CERP is specific to cyanide and describes emergency response procedures in the event of an unplanned release of cyanide. The plan covers emergency response scenarios, response actions, response equipment, notification procedures, monitoring and remediation, and incident review procedures. The SOP titled, "Emergency Response to Cyanide Exposure", provides procedures for responding to cyanide exposures including use of the antidote (amyl nitrite) and administering first aid related to cyanide exposures. The purpose of the Crisis Communications Plan is to provide basic information to facilitate a managed response to an emergency. It focuses on internal and external communications and management organization to facilitate a response.

Due to liability concerns, it is CC&V's policy not to respond to spills caused by other entities, including transporters, unless: the spill is within the Cresson Project Area or CC&V has been requested to do so by the responsible party or the local emergency response team; AND the CC&V General Manager or his/her designee specifically authorizes a response. Therefore, the CERP considers only transportation accidents that could occur on site (i.e., during transport of cyanide between the guard gate and the cyanide offload facility). Any offsite incident related to the transportation of cyanide is the responsibility of Cyanco and its production and transport contractors as described in the Cyanide Master Purchase and Sale Agreement.

## Standard of Practice 7.2

*Involve site personnel and stakeholders in the planning process.*

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 7.2.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

CC&V developed the CERP with input from key employees. Additionally, CC&V consults with its employees periodically to ensure that the CERP addresses current conditions and risks. CC&V Environmental personnel regularly attend Local Emergency Planning Committee (“LEPC”) monthly meetings. CC&V also gains input from LEPC members through their participation in mock drills. The public review process offered by state and county permitting processes solicits input from affected communities regarding all aspects of the operation. Additionally, CC&V provides a controlled copy of the ERP and supporting response plans to the Emergency Preparedness Director for Teller County, the control point and coordinator for all outside responders. The Community Affairs Manager serves as the primary point of contact for stakeholder questions or complaints that could affect ERP content.

## Standard of Practice 7.3

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 7.3.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

The ERP identifies Emergency Response Coordinators and Responders along with necessary contact information. The ERP and associated plans also provide the location of response and remediation equipment, describes cleanup and monitoring procedures, and discusses internal and external spill notification and follow-up actions. Additionally, the ERP and associated plans describe the roles of outside responders for the release and exposure scenarios identified as having the potential to occur under extreme upset conditions.

The Crisis Communications Plan defines the duties and responsibilities of the coordinators and team members during a formal (Code 90 RED) emergency. These duties and responsibilities are also provided on Role Cards, which are used as checklists during an emergency. As outlined in the CERP, the Process Manager, or his/her designee, is the Primary Emergency Response Coordinator. The Emergency Response Coordinator authorizes the

call-out of the Mine Rescue Team (Emergency Response Team) and is responsible for coordinating all onsite emergency response measures. During a Code 90 RED, the Senior Vice President, North America or his/her alternate will assume the role of Emergency Commander and proceed with the ERP, including assigning individuals to required positions. Alternate Emergency Commanders include the General Manager, Process Manager, or the Mine Manager.

The ERP contains information regarding Mine Rescue Team call-out procedures and available, qualified personnel. The full Mine Rescue Team consists of 12 members and CC&V maintains at least four members on site at any one time. Each Mine Rescue Team member completes an eight-hour First Responder training course. Additionally, all team members receive 10 hours training each month. The efficiency and competence of the team are honed through participation in mock drills and responding to Code 90 emergencies.

CC&V maintains the equipment necessary to implement response procedures, including a Mine Rescue Vehicle. CC&V also stores emergency response equipment in the Emergency Response Shed located at Carlton Security near the Arequa Gulch ADR Plant and in the Mine Rescue Team training room at the Ironclad Facility. Calcium hypochlorite (for cyanide detoxification) is stored in the leach pad crew "Tuff Shed" located at the Arequa Gulch VLF. Self-contained breathing apparatus ("SCBA") and HCN gas monitoring equipment are available via Process personnel, Safety personnel, and the Mine Rescue Team.

The Mine Rescue Team Captain assigns two team members to inspect and inventory the equipment following each drill, training session or actual response. Completed electronic checklists covering the past three years of inspections of the cyanide emergency equipment stored with the Mine Rescue Vehicle were available for review. The auditor found the checklists complete with the name of the inspector, confirming that inspections are undertaken on a monthly schedule, as required. However, monthly inspection records for the emergency response equipment stored in the Emergency Response Shed located at Carlton Security, were not available for the period June 2010 through 2012. CC&V made multiple, unsuccessful attempts to locate records documenting inspections of emergency response equipment and is confident that equipment inspections are occurring as required; nonetheless, CC&V indicated that the individuals conducting the inspections failed to properly file completed inspection checklists. Consequently, CC&V issued an internal corrective action regarding records management and retention at the site to prevent recurrence of this issue in the future, and based on review of additional objective evidence provided by CC&V prior to submittal of the final version of this report (see Section 4.1 above), in the auditor's professional judgment, CC&V has satisfactorily met the requirements of this Standard of Practice.

## Standard of Practice 7.4

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 7.4.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

All notification is conducted in accordance with the ERP. A member of senior site management is responsible for determining if outside emergency assistance is required. Persons making such a determination shall not be the Emergency Response Coordinator since that individual is responsible for resolving the cyanide emergency. The Emergency Response Coordinator will authorize the Mine Rescue Team call-out. If the emergency is classified as a Code 90 RED (i.e., fatality or life threatening injury), procedures are in place to initiate the Crisis Communications Plan.

In accordance with its Spill Response Plan, CC&V Environmental Resources personnel report spills to land that exceed the Reportable Quantities volume criterion in any 24-hour period to external agencies. The CERP includes procedures for evacuation of off-site parties from residencies and businesses as necessary to protect the public from potential exposure from fire, chemical release or other catastrophe at the site. The ERP contains contact information for CC&V management, regulatory agencies, outside response providers, medical facilities, potentially affected communities and other stakeholders, including downstream water users, adjoining landowners and elected officials.

## Standard of Practice 7.5

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 7.5.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

The Spill Response Plan, the CERP, and the SOP titled "Cyanide Spillage", describe response and remediation measures for cyanide spills. The CERP describes the cleanup/remediation procedures and refers to the Spill Response Plan for detailed implementation through completion. Both plans include spill path monitoring procedures and the Spill Response Plan provides reporting procedures to carry out following the initial response.

SOP "Cyanide Spillage" provides cleanup and disposal procedures for spills of solid cyanide and cyanide solution. For both solid and liquid spills, CC&V will neutralize the unrecoverable cyanide with calcium hypochlorite and excavate contaminated soil for disposal on the Arequa Gulch VLF.

In the event of a spill to surface water (i.e., to Arequa Gulch) samples of the released solution would be collected if possible, at established locations, and downstream from but as close to the point of entry as is safely possible. In accordance with the CERP, CC&V will not attempt to oxidize, neutralize, or otherwise treat cyanide once it has entered Arequa Gulch. CC&V's philosophy is that all cyanide treatment chemicals are themselves toxic to aquatic life and in situ treatment is only marginally effective at best; therefore, all efforts focus on preventing releases to surface waters. For releases to groundwater, CC&V is committed to the regulatory response procedure stipulated by its Reclamation Permit, made part of the CERP, which requires increased monitoring of certain parameters at the existing groundwater monitoring wells. Drinking water supply wells are a considerable distance from the site, and are highly unlikely to be affected by spills.

If a spill or leak has the potential to migrate from the point of occurrence, CC&V will implement spill monitoring following cleanup of contaminated soil material. If a spill has the potential to migrate to surface water, CC&V will construct berms upgradient of the potential point of entry to the water and implement surface water monitoring downstream, if necessary. CC&V will monitor, decontaminate and/or remove soil along the spill area as necessary. If there is a potential for the spill to migrate off site, CC&V will obtain samples expeditiously from downgradient, existing surface and ground water stations and any additional water monitoring points deemed appropriate to monitor the potential migration pathways. The nature and extent of the spill and the potential environmental effects created by the spill will determine the development of the monitoring plan.

## Standard of Practice 7.6

*Periodically evaluate response procedures and capabilities and revise them as needed.*

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 7.6.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

### *Discussion of the basis for this Finding and any Identified Deficiencies:*

In accordance with its CERP, CC&V shall review and evaluate the CERP biannually at minimum and following all incidents requiring its implementation. CC&V will revise the CERP based on these reviews, as necessary, to ensure that it remains current and effective. Updates to the contact lists in the ERP are made on an as-need basis (e.g., following personnel changes and public elections). The ERP was last updated on May 21, 2013 and the CERP was last updated on October 31, 2013.

CC&V has committed to periodically test its ability to respond to cyanide-related incidents and to implement appropriate first aid procedures. CC&V periodically conducts mock drills in accordance with its HSMS and provided documentation of three cyanide-related mock emergency drills conducted subsequent to the 2010 ICMC recertification audit (see Section 6.3 above).

According to the ERP, CC&V prepares a follow-up written report any time the ERP and associated plans are implemented in order to assess the adequacy of the plans. CC&V evaluates all cyanide exposure and release incidents to identify root causes and implement measures designed to prevent reoccurrence. The Crisis Communications Plan requires completion of a thorough incident review that focuses on continuous improvement and prevention. Incident reviews are entered into the WMRS database.

## 8.0 TRAINING

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

### Standard of Practice 8.1

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 8.1.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

**Discussion of the basis for this Finding and any Identified Deficiencies:**

CC&V trains all employees in cyanide hazard recognition as part of new hire and annual refresher training. All new hires and contractors are required to view a video that speaks to cyanide management issues and hazard recognition. The CC&V "Cyanide Containment Policy" requires all employees with access to the cyanide containment system to know the general cyanide containment features of the facilities so that they will not compromise that containment with their actions. CC&V distributes this policy to all Process department employees and specifically addresses its requirements in new miner and annual refresher training. Additionally, CC&V provides hands-on training to contractors that will be working in an area involving the use of cyanide.

Annual refresher training is provided to all process personnel and Mine Rescue Team personnel. The Safety Coordinator provides cyanide safety training and the Manager, Environmental Resources provides training related to containment and spill response. The CCEMS ambulance paramedics also attend the training sessions and provide first aid training.

CC&V retains all training records through the duration of an individual's employment. Process-specific records for individual workers are accumulated by the responsible supervisor until the supervisor and trainee are satisfied with the trainee's understanding of the training subject. CC&V maintains an electronic record of training for each employee and hardcopy training records are retained in the Safety Systems Administrator's office. Attendance records are also kept of monthly Mine Rescue Team meetings and annual refresher training.

## Standard of Practice 8.2

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 8.2.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

All process workers are subject to a task training program implemented by the qualified supervisor and experienced Process Operators. Contractors working in an area involving the use of cyanide receive hands-on training by the Safety Coordinator. Process Operators, Maintenance personnel, cyanide delivery drivers and temporary employees working in critical process areas, complete on the job task training regarding cyanide SOP requirements. Task training follows the content of the SOPs and qualified supervisors provide this training. A worker cannot be assigned tasks until he/she has completed task training and has been certified in that task by a qualified supervisor. Task-specific refresher training is only provided if an employee leaves the job for an extended period or if the SOPs change.

CC&V does not employ a formal examination or testing procedure (i.e., written exams or quizzes) for evaluating effectiveness of training. Training courses include an oral question and answer period. Employee competence is monitored through task observation during and after training. The task training records include the name of the employee, the topics covered, the date of training completion, and sign-off by the individual attesting to understanding the training subject, and the name and signature of the trainer.

## Standard of Practice 8.3

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 8.3.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

All processes involving the use of cyanide are documented as SOPs, which form the basis of operator training and address plant operations and procedures to be followed in the event of a release of cyanide. Additionally,



Maintenance personnel must be trained in procedures that address a cyanide release. Additionally, CC&V provides training related to containment and spill response during annual refresher training.

During new hire and annual refresher training, CC&V provides trains all workers in emergency response procedures related to a cyanide release. This training includes first aid procedures for treating worker exposure to cyanide. Additionally, CCEMS paramedics provide general first aid refresher training. To supplement this training program and improve response skills, CC&V conducts periodic mock drills involving cyanide release scenarios. Three cyanide-related mock emergency drills were conducted subsequent to the 2010 ICMC recertification audit.

Mine Rescue Team members participate in the mock drills and complete the annual refresher training, which includes emergency response and first aid. The mock drills identify areas where, in addition to other recommendations, the knowledge and skills of the responders would benefit from additional training. Additionally, Mine Rescue Team members are trained in the use of SCBA and participate in monthly emergency response training covering various topics. Mine Rescue Team monthly training records include topic covered, date and sign-off list of attendees. Mock drill and tabletop drill records include a list of personnel and emergency responders that participated in the drill.

CC&V involves local response agencies and medical facilities in the cyanide emergency planning and response process through regular LEPC meetings. The Pikes Peak Regional Hospital attends LEPC monthly meetings. Additionally, CC&V provides a controlled copy of the ERP and supporting response plans to the Emergency Preparedness Director for Teller County, the control point and coordinator for all outside responders. Furthermore, CC&V involves outside responders in the mock drills conducted to test its emergency response procedures.

## 9.0 DIALOGUE

*Engage in public consultation and disclosure.*

### Standard of Practice 9.1

*Provide stakeholders the opportunity to communicate issues of concern.*

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 9.1.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

CC&V remains actively engaged in the local and regional community and provides several means for stakeholders to communicate issues of concern regarding cyanide use and management at the mine. These include LEPC meetings, public meetings, mine tours, a Visitors Center, and corporate website.

### Standard of Practice 9.2

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 9.2.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

The CC&V website, visitor center and mine tours provide regular and ample opportunities for stakeholders to interact with CC&V personnel and obtain information regarding cyanide management practices and procedures. The CC&V website contains a professionally produced educational video titled, "A Virtual Mine Tour," which provides substantial public information with respect to the project history, design, the overall mine life cycle and the mining process (including use of cyanide). The video is also available for sale in digital videodisk format at the CC&V Visitors Center, located in Cripple Creek, which is open year round with seasonal hours of operation. CC&V hosts free presentations throughout the year at the Visitors Center, which cover a variety of topics regarding the Cresson Project. CC&V has also created a publicly accessible overlook, the American Eagles Overlook, which permits open visual observation of pit development, overburden placement, and leaching operations.

## Standard of Practice 9.3

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

The operation is in	<input checked="" type="checkbox"/> Full Compliance	with Standard of Practice 9.3.
	<input type="checkbox"/> Substantial Compliance	
	<input type="checkbox"/> Non-Compliance	

***Discussion of the basis for this Finding and any Identified Deficiencies:***

CC&V has developed informative materials that it provides to tour participants and/or the general public. As previously discussed in Section 9.2 above, the CC&V website provides substantial information regarding the overall mine life cycle and the mining process, including the use of cyanide. Additionally, CC&V has prepared a wide variety of explanatory materials designed to explain the mining and recovery process, including a hard copy brochure, which describes the life cycle of a mine and the various operational and process components of the Cresson Project including the use of cyanide, and individual information sheets explaining the operational and process components described in the brochure. CC&V makes these materials available to the public via its office and Visitors Center, and local museums located in Victor and Cripple Creek. Furthermore, the regulatory permit applications for the Cresson Project, which are public record, explain all aspects of the operation in detail.

If an exposure incident resulting in hospitalization or a fatality were to occur, CC&V would report it to MSHA, the DRMS, and other State agencies and local officials, depending on the specific circumstances of the exposure. It is CC&V's position that providing information to the public is the exclusive purview of the responsible regulatory agencies or officials and summaries of such incidents may be posted on responsible agency websites or would otherwise be available to the public from the agency upon request. Disclosures of specific details of reportable events continue to be controlled by the ERP, i.e., more specifically, the CC&V (and as necessary, Regional) Crisis Communication Plan. On a case-by-case basis, CC&V may choose to prepare internal and/or external press releases or bulletins associated with such instances, as one of the potential outcomes of ERP implementation.

An incident occurred in the CC&V metallurgical laboratory in 2013 whereby an employee was exposed to HCN gas due to another employee not following proper procedures. The victim exhibited signs of cyanide poisoning, CC&V personnel administered oxygen immediately, and the worker recovered fully. The worker did not lose consciousness or require hospitalization, and returned to light duty work immediately (during the same shift); therefore, CC&V did not notify MSHA.

Since the 2010 ICMC recertification audit, no releases have occurred off the mine site, and no releases have occurred on or off the mine site, which resulted in significant adverse effects to health or the environment, required reporting under applicable regulations or that caused applicable limits for cyanide to be exceeded. Nonetheless, following all spills or releases, CC&V notifies DRMS as a courtesy. If such a release were to occur, CC&V would report the incident as described above.

Contact information for the agencies and other sources referenced in items above, where the public can access information regarding cyanide releases or exposure incidents that have or may occur at the Cresson Project, is provided below for easy reference:

MSHA

Office of the Administrator  
1100 Wilson Boulevard Room 2436  
Arlington, Va. 22209-3939  
Phone: (202) 693-9600  
Website: <http://www.msha.gov/>

DRMS

1313 Sherman Street, Room 215  
Denver, CO 80203  
Phone: (303) 866-3567  
Website: <http://mining.state.co.us>

## 10.0 REFERENCES

- Environmental Resources Management (ERM), 2007. "Detailed Audit Findings Report for the June 2007 International Cyanide Management Code Recertification Audit, prepared for CC&V." September 10
- GeoEngineers, Inc. 2010. "Detailed Audit Findings Report for the June 2010 International Cyanide Management Code Recertification Audit, prepared for CC&V." September 22
- Cripple Creek & Victor Gold Mining Company (CC&V), 2013. "Corrective Action Plan". November 7
- Cripple Creek & Victor Gold Mining Company (CC&V), 2014. "Responses to Corrective Actions". February 27

## WEBSITE REFERENCES

- International Cyanide Management Code (ICMC). 2012. [www.cyanidecode.org](http://www.cyanidecode.org)