November 2015

ICMC RECERTIFICATION SUMMARY AUDIT REPORT

Wharf Mine
South Dakota, USA

Submitted to:
International Cyanide Management Institute (ICMI)
1400 I Street NW-Suite 550
Washington, DC 20005
United States of America

And

Wharf Resources USA
10928 Wharf Road
Lead, South Dakota 57754
United States of America

Submitted by:
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Project Number: 1416576

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1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Mine:	Wharf Mine
Name of Mine Owner:	Coeur Mining, Inc.
Name of Mine Operator:	Wharf Resources USA.
Name of Responsible Manager:	Ken Nelson, Mine General Manager
Address:	10928 Wharf Road Lead, South Dakota 57754
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2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

2.1 Mine Location

The Wharf Mine (Wharf) is located four miles west of Lead in the Black Hills, a heavily forested, small mountain range located in western South Dakota (Figure 1). Annual average precipitation in Lead is 27.8 inches, with most precipitation between April and September. Elevations in the Black Hills range from 3,500 feet to 7,242 feet above sea level at Harney Peak. Wharf's plant site is at an elevation of 6,140 feet above sea level.

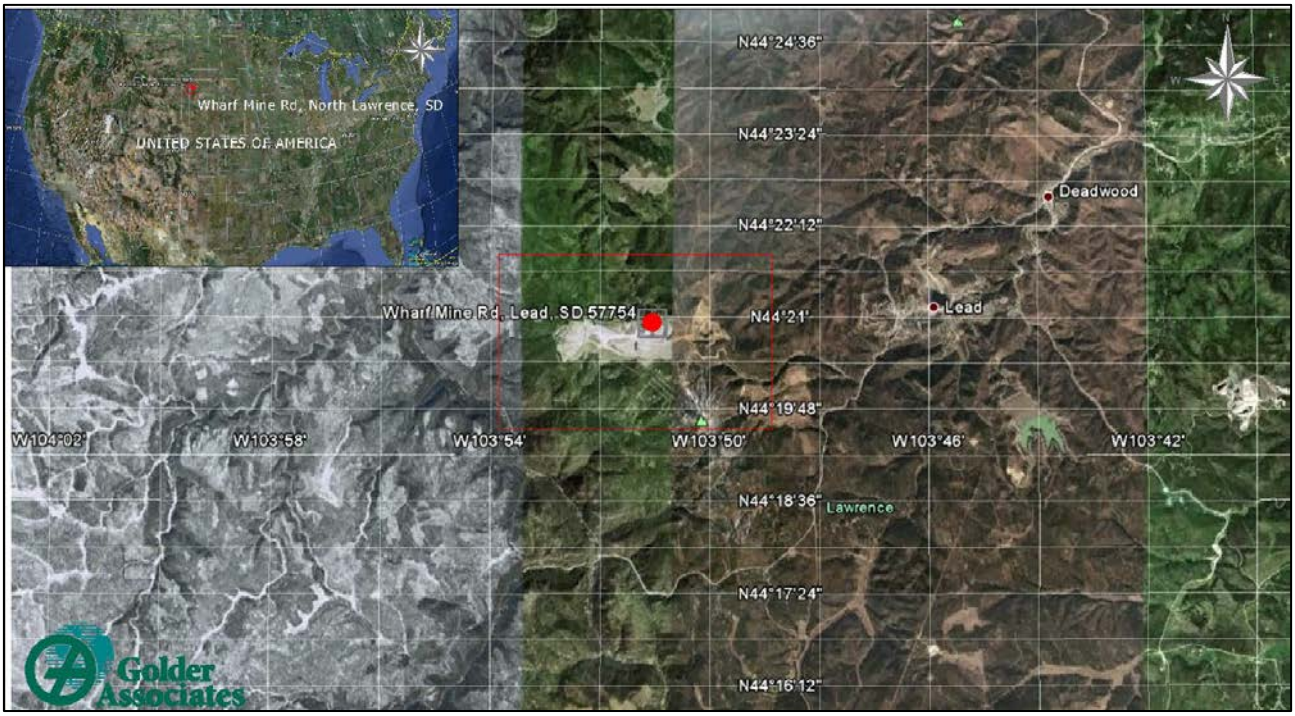

Figure 1: Regional Location Map

2.2 Background

Wharf was established in the Bald Mountain Mining District that includes both the Portland and Ruby Basin Districts of earlier mining activity. Production from the Bald Mountain Mining District is estimated at 1,412,900 ounces of gold and 4,327,900 ounces of silver between 1877 and 1959. During this time, gold ore was mined from extensive underground workings. Wharf Resources independently acquired a land position and initiated exploration in the Annie Creek area in 1979. This work resulted in the definition of a gold deposit which was developed in 1983 as an open pit mine and heap leach recovery operation. Subsequent exploration programs successfully delineated several ore bodies including Foley Ridge (including East Foley), Juno Cut, The American Eagle, Portland and Trojan.

On February 20, 2015, Coeur Mining, Inc. (Coeur) completed the purchase of the Wharf Mine from the previous owner, Goldcorp Inc. (Goldcorp). The Wharf Mine is operated by Wharf Resources USA as a subsidiary of Coeur. The ICMI accepted Wharf, under its new ownership, but with the same operating

company, as a signatory to the Code on May 15, 2015. Therefore, Wharf was under Goldcorp management for approximately 2 years of the recertification period (i.e., 2013 and 2014) and under Coeur management for the final year of the recertification period (i.e., 2015).

The run-of-mine gold ore is transferred from 250-ton storage hopper via an apron feeder to a vibrating grizzly where all rock less than 6 inches is separated out. The larger material is sent through a jaw crusher. The jaw crusher product is further screened and crushed with five cone crushers and five screen decks until it reaches the 1-1⁄2 inch size. Granulated lime is added to the ore during crushing to provide control of the pH in the leach solution during processing.

The crushed ore is hauled by the pit operations equipment fleet to one of five on-off heap leach pads and placed in 20-foot lifts to a maximum height of 150 feet over the pad liner. The five leach pads used for ore processing cover approximately 70 acres with a capacity of 9 million tons. The pad design includes double synthetic liners on top of 8 inches of compacted clay, with a leak detection system located between the two synthetic liners. A dilute alkaline cyanide solution is distributed through the crushed rock by drip emitters that are installed on the top of each lift. As the solution percolates down through the ore, the gold is leached from the ore and the gold-laden (pregnant) solution gravity flows through pipelines to the processing plant. The leaching process is usually complete approximately 12 to 18 months after the pad is completely full.

Once the pad has been fully leached, the heap is rinsed with water and neutralized with hydrogen peroxide to oxidize residual cyanides. Following neutralization, the spent ore is denitrified in place and then hauled to the open pits within the permitted boundary.

Through the addition of extra carbon columns the recovery plant has the capacity to treat 3,800 gallons/minute of pregnant solution. The adsorption circuit consists of 19 carbon columns holding a total of 39 tons of activated carbon where the gold is removed from the solution. The activated carbon (loaded with gold) is moved to the stripping plant where it enters a closed circuit under high pressure and temperature. Gold is electro-plated from the circuit and the precious metal sludge is then shipped to a third party refinery for further processing.

On February 20, 2015, Coeur Mining, Inc. (Coeur) completed the purchase of Wharf from the previous owner, Goldcorp Inc. (Goldcorp). Wharf is operated by Wharf Resources USA as a subsidiary of Coeur. The ICMI accepted Wharf, under its new ownership, as a signatory to the Code on May 15, 2015. Therefore, Wharf was under Goldcorp management for approximately 2 years of the recertification period (i.e., 2013 and 2014) and under Coeur management for the final year of the recertification period (i.e., 2015).

3.0 SUMMARY AUDIT REPORT

3.1 Auditors Findings

	☒ **in full compliance with**	
Wharf Mine is:	☐ in substantial compliance with	**The International Cyanide Management Code**
	☐ not in compliance with	

Audit Company: Golder Associates

Audit Team Leader: Kent Johnejack, Lead Auditor and Technical Specialist

Email: kjohnejack@golder.com

This operation has experienced cyanide incidents during the previous 3-year audit cycle, which are discussed in this report under Standard of Practice 9.3. These incidents have not been "significant cyanide incidents" subject to the notification requirements in Item 6 of the ICMC signatory application; they do not affect the compliance status. These incidents did not involve worker exposures to cyanide or offsite incidents. Rather, these incidents were minor releases of cyanide-bearing solutions to soil that were reported to regulators, and thus are subject to listing under Question 3 of Standard of Practice 9.3.

3.2 Name of Other Auditors

Name, Position	Signature
Ivon Aguinaga, Gold Mining Technical Specialist	Ivón Aguinaga

3.3 Dates of Audit

The Recertification Audit was undertaken between August 17 and 20, 2015.

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 Code Verification Auditors.

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

Wharf Mine		November 18, 2015
Name of Facility	Signature of Lead Auditor	Date

PRINCIPLE 1 – PRODUCTION

Encourage Responsible Cyanide Manufacturing by Purchasing from Manufacturers that Operate in a Safe and Environmentally Protective Manner

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

☒ **in full compliance with**

Wharf is

☐ in substantial compliance with **Standard of Practice 1.1**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 1.1, requiring the operation to 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.

Wharf only purchases cyanide that is manufactured at Cyanco's production facility located in Winnemucca, Nevada, and does not use any independent distributors. The purchase agreement between Cyanco and Wharf does not require that Cyanco comply with the Code. However, Cyanco's production facility in Winnemucca has been most recently recertified as being in full compliance with the Code on July 12, 2013.

PRINCIPLE 2 – 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.**

☒ **in full compliance with**

Wharf is

☐ in substantial compliance with **Standard of Practice 2.1**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 2.1, requiring that the operation establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

Cyanco is the producer and supplier for Wharf. Wharf has a contract with Cyanco, which specifies that the operation takes ownership of the cyanide at the time of delivery. Cyanco uses TransWood as the only transporter of cyanide from their cyanide production facility in Winnemucca to Wharf. Cyanco and TransWood are both signatory to the Code and both were most recently recertified as fully compliant with the Code on July 12, 2013.

Standard of Practice 2.2: **Require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management**

☒ **in full compliance with**

Wharf is

☐ in substantial compliance with **Standard of Practice 2.2**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 2.2, requiring that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

Cyanco is the producer and supplier for Wharf. Cyanco uses TransWood as the only transporter of cyanide from their cyanide production facility in Winnemucca to Wharf. TransWood was most recently recertified as being in full compliance with the Code on July 12, 2013. The Bills of Lading from February 2013 to August 2015 indicate that TransWood directly transports the cyanide to Wharf without use of subcontractors or interim storage facilities.

PRINCIPLE 3 – 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.**

☒ **in full compliance with**

Wharf is

☐ in substantial compliance with **Standard of Practice 3.1**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Handling and Storage Practice 3.1, requiring that cyanide handling and storage facilities are designed and constructed consistent with sound, accepted engineering practices, quality assurance/quality control (QA/QC) procedures, spill prevention and spill containment measures.

Wharf constructed a Code-compliant offload and storage facility in 2011 and 2012, as described in the initial audit report. The findings of the initial audit report are still valid and are repeated below for completeness.

The only changes since the initial audit have been (a) installation of a fixed HCN monitor in the shed housing the distribution pumps for the storage tank, and (b) installation of a readout for the tank level sensor at the offload area. The HCN monitor readout is located on the north side of the chain link fence on the west side of the CCIX building and the level sensor readout is located around the corner on the north side of the plant at the offload ramp so that operators can easily check the readings before offloading. The HCN monitor and level sensor also report to the control room panel.

Wharf constructed a cyanide offloading and storage facility for liquid cyanide in 2011 and 2012 using sound and accepted engineering practices. This facility was designed by TSP, Inc., whose staff include registered professional engineers in civil and mechanical engineering disciplines. The facility was cleared for use by Cyanco. The offload is located away from people near a typically unoccupied room of the plant. There is no public access in the vicinity of the plant and ponds; nonetheless, the storage tank is surrounded by chain link fence for security. The offload and storage tank area are located away from surface water and the ground slopes towards the adjacent Overflow Pond.

The offload ramp and the storage tank area are constructed of reinforced concrete to collect leakage and prevent seepage to the subsurface. The storage tank is equipped with an ultrasonic level sensor with two high level set points that trigger an audio alarm inside the plant and a visual message on a screen in the control room. The storage tank is located outside of the plant and therefore is well ventilated. The storage tank is supported on rails above the concrete floor of the secondary containment. It is located inside the

fenced secondary containment structure with a locked gate. The offloading area and storage tank are physically separated, by the plant building, from incompatible materials, such as acids, oxidizers, and explosives. The area is well away from where food and tobacco are consumed.

The auditors observed all components of the offload and storage tank area to be in excellent condition at the time of the site visit. The concrete was in good condition and the drain pipes to the Overflow Pond from the tank secondary containment and the offload ramp were unobstructed.

Standard of Practice 3.2: Operate unloading storage and mixing facilities using inspections, preventative maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

☒ **in full compliance with**

Wharf is

☐ in substantial compliance with **Standard of Practice 3.2**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Handling and Storage Practice 3.2 requiring that cyanide handling and storage facilities are operated using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

Wharf only uses liquid cyanide, thereby eliminating the possible reuse of cyanide containers; the need to rinse drums, bags, or liners; and the need to dispose of empty drums or boxes. Before leaving the offload area, the cyanide lines on the truck are blown through with air to ensure that they are dry and that no residual cyanide solution is present. A Cyanco offload procedure details the operation of truck valves and couplings, while a Wharf procedure discusses the operation of their tank's valves and caps. The Wharf cyanide spill procedure describes the measures required to clean up high-grade cyanide solution spilled during offloading. The Wharf unload procedure specifies (a) personal protective equipment for use during offloading; (b) an escort for the tanker truck from the main gate to the offload area; (c) an for an observer to watch the offload from outside the barricaded area; and (4) a spotter to accompany the truck driver within the barricaded area. The auditors observed an offload to confirm the use of a checklist from the Wharf procedure, as well as the presence of the observer and spotter. The auditors also reviewed a complete set of scanned offload checklists from throughout the recertification period to verify compliance.

PRINCIPLE 4 – 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 preventative maintenance procedures.**

☒ **in full compliance with**

Wharf is

☐ in substantial compliance with **Standard of Practice 4.1**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 4.1, requiring that the operation implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures.

As in the initial audit, the cyanide facilities at Wharf consist of the heap leach pad (Nos. 1-5), five process ponds, reagent-grade cyanide system, plant, hydrogen peroxide cyanide treatment system, and all the associated pumps, pipes, and appurtenances. The heap leach pad is an on/off pad with the spent ore being moved to disposal facilities when the WAD cyanide in the drain-down solutions is less than 0.5 ppm. The only modifications to the cyanide facilities during the recertification period were the Pad 1 relining in 2013, the Pad 4 relining in 2014, and the Pad 5 relining in 2015.

The non-cyanide facilities consist of the open pit, spent ore disposal facilities, crusher, biological water treatment plant, groundwater remediation system for nitrates, and seven non-process ponds. Treated water with WAD cyanide less than 0.5 ppm is transferred in batches from the process ponds, specifically the Contingency Pond, to the non-process ponds, specifically the Ross Valley, Reliance and Neutralization Ponds, which serve as distribution points to the other non-process ponds. The batch transfer procedure includes an internal permit with approval required by both the environmental department and metallurgical department before a transfer may take place, thereby preventing the inadvertent transfer of solutions with WAD cyanide greater than 0.5 ppm and maintaining the non-process ponds as non-cyanide facilities. The auditors reviewed a complete set of the transfer permits for the recertification period to verify adherence to the transfer procedure. Given that the pad, ponds, and plant are located on a ridge that comprises the headwaters of several drainages, there are no surface water diversions to be considered as cyanide facilities.

Wharf continues to be managed under the Sustainability Excellence Management System (SEMS) that was implemented under the previous mine owner (Goldcorp). This management system covers environmental, safety, health, and community relations programs. This environmental management system is currently

being transferred to the new owner's system (Coeur), but at the time of the site visit, the mine still operated under the previous management system.

Wharf has developed written plans, specifications, reports, manuals, and procedures for operation of its cyanide facilities. These documents cover all of the cyanide facilities and cyanide-related activities required in order to protect human health and the environment. These documents are generally the same as those reviewed during the initial audit. The target of maintaining WAD cyanide at less than 50 ppm in open water is defined in a written procedure. The target rate for cyanide addition is also described in a written procedure. The process water balance identifies the critical pond levels and flows, and includes the state-mandated requirement to maintain available capacity for a 19.6-inch storm. The spreadsheet water balance specifies the minimum freeboard in the process ponds at 2 feet. The auditors observed that the key operating parameters are displayed on the whiteboard in the plant control room, including the cyanide addition rate and the target pH of 10.5.

Wharf has developed standard operating procedures (SOPs) for the safe and environmentally sound operation of the cyanide facilities. Most of the procedures are unchanged from the initial audit in 2012, but some have been updated and a few are new. The procedures cover cyanide-related activities, including inspections, preventative maintenance, managing cyanide solutions to prevent pond overtopping, and preventing elevated concentrations of WAD cyanide in the ponds.

Wharf has a written procedure for change management that includes a form with sign off. Wharf has also developed a tracking spreadsheet to summarize the changes. This spreadsheet lists 28 cyanide and non-cyanide related items that required management of change during the recertification period. The auditors reviewed the signed forms for the eight cyanide-related changes during the recertification period to verify compliance.

Wharf has developed written contingency procedures for managing upset conditions, deviations from designs and/or standard procedures, and temporary shutdown. The procedure for heavy rainfall management describes the steps to be taken in six different scenarios in order to maintain capacity. This procedure also describes when and how to start and stop the backup generator in the case of a power failure. The response plans for leakage from the pads and ponds, respectively, describe the steps to be taken in multiple scenarios of flow into the Leak Detection, Collection, and Recovery System (LDCRS). The procedure for care and maintenance idle down describes the steps to temporarily manage high (reagent-grade) and low strength cyanide solutions.

Wharf conducts inspections on a shift, daily, monthly, and annual basis. The auditors reviewed completed examples of the inspection forms and observed that the cyanide facilities were generally in good condition, supporting that the inspection program is effective. The inspections include tanks and columns; secondary containments; LDCRS for the pads and ponds; pipelines, pumps, and valves; and pond water levels. Wharf

commissioned a certified contractor to perform biannual tank integrity testing in 2013 and 2015. This contractor concluded that all cyanide-related tanks suitable for continued use as defined by Steel Tank Institute guidelines. The auditors reviewed the 2013 and 2015 reports to verify compliance.

Wharf has implemented a preventative maintenance program that includes preventative (proactive) and corrective (reactive) maintenance, thereby ensuring that equipment functions as necessary for safe cyanide management. The program includes all cyanide facilities from the plant, ponds, and pads to the fencing around these facilities. Preventative maintenance is managed according to a written procedure and Maintenance Control System (MCS) software. The auditors reviewed randomly selected examples of maintenance histories from the MCS software for the selected cyanide-related equipment to verify maintenance was completed throughout the recertification period. Wharf also has a current list of spare parts for critical pumps and redundant (standby) pumps installed for key circuits, such as the high-strength cyanide distribution system.

Wharf has a 1.7 megawatt diesel generator that provides backup power for the plant. The auditors reviewed a maintenance history printout from the MCS software to verify inspections and maintenance were completed throughout the recertification period. The auditors reviewed monthly generator run logs to verify compliance.

Standard of Practice 4.2: Introduce management and operating systems to minimise cyanide use, thereby limiting concentrations of cyanide in mill tailings.

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 4.2**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 4.2, requiring that the operation limit the use of cyanide to that optimal for economic recovery of gold so that the waste tailings material has as low a cyanide concentration as practical.

Not applicable at Wharf because the site is a heap leach operation and there is no milling or tailings disposal.

Standard of Practice 4.3: Implement a comprehensive water management program to protect against unintentional releases.

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 4.3**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 4.3, requiring the operation to implement a comprehensive water management program to protect against unintentional releases.

Wharf developed a comprehensive and probabilistic water balance for the initial audit. Wharf used this water balance without changes throughout the recertification period. The findings of the initial audit report are still valid and are repeated below for completeness with minor clarifications.

Wharf has developed a comprehensive and probabilistic water balance accompanied by procedures and a training manual. The water balance is site-wide, including both cyanide and non-cyanide facilities. It is comprehensive in that it includes different application rates separately for each of the five pads for active leaching, treatment (neutralization), and offloading/reloading; precipitation (rain and snow); evaporation; freezing and thawing (rain-on-snow event); drain-down from a 24-hour power outage; and transfer of neutralized solutions from the process ponds to the non-process ponds. Seepage losses are not included, but this reasonable given that the pad and ponds are double-lined with leak detection. The pad, ponds, and plant are located on a ridge top and there are no upgradient watersheds to be diverted. The model is probabilistic in that is includes the 100-year, 24-hour storm and a major storm of 19.6 inches (nearly the probable maximum flood). The model includes a 10-year wet cycle based on an evaluation of 100 years of regional precipitation data. The model includes reasonable values for the application rates, precipitation, and evaporation.

The Wharf water balance, as well as the accompanying procedure for heavy rainfall management, is designed to ensure ponds do not overtop. The model expresses capacity in terms of the size of rainfall event that can be accommodated in the system. The target available capacity is 19.6 inches (nearly the size of the 6-hour probable maximum flood), as required by the Department of Environment and Natural Resources. The procedure for heavy rainfall management provides actions to prevent overtopping in six scenarios, including a rain-on-snow event.

The summer of 2015 had been wetter than average and the available system capacity was 17.7 inches on August 18, 2015. Wharf staff stated that the regulators allow them a reasonable amount of time (e.g., several days to several weeks) to restore system capacity after heavy rains. By treating process solution, transferring it to the non-cyanide ponds, providing additional treatment for nitrates and metals, and ultimately discharging to Ross Valley, Wharf was able to restore the capacity to 20.1 inches by August 30, 2015. The auditors accepted this practice as fully compliant.

The availability of system capacity does not necessarily prevent overtopping of an individual process pond. The process ponds are configured with spillways such that the Pregnant Pond overflows to the Barren Pond, which in turn overflows to the Overflow Pond, which in turn overflows to the Contingency Pond. Water from the Contingency Pond is pumped to the Neutralization Pond where cyanide is destroyed. Therefore, the only two process ponds that do not automatically overflow to another pond, and therefore have the potential to overtop, are the Contingency Pond and the Neutralization Pond. The minimum freeboard is 2 feet and marks are painted on the pond sides for estimating the depth and remaining freeboard. The auditors reviewed time

series graphs of water levels in both ponds that showed the minimum freeboard level was not exceeded in either pond throughout the recertification period.

Wharf maintains a weather station near the plant. Wharf measures precipitation and pond levels daily for entry into the water balance, providing continual comparison of results to design and operation. Precipitation data are summarized on a bar graph comparing the actual annual depth to the long-term average depth, thus providing information on wet and dry periods compared to the average conditions. The auditors observed examples of the spreadsheet output that confirm regular input of the daily precipitation data to estimate available system capacity. Given that the process ponds are designed and operated for nearly the probable maximum flood, the risk of overtopping is low and there is less need to continuously evaluate precipitation distributions than at other sites where lesser design criteria are applied.

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

Wharf is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.4**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 4.4, requiring the operation implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

Wharf has implemented measures to restrict wildlife access to the heap leach pads and process ponds. The entire perimeter of the heap leach pads and process ponds is fenced to prevent access by deer and other wildlife. This fence is 8-feet high with a wire mesh. The auditors reviewed annual fence inspection reports from the recertification period to verify that this fence is maintained.

Wharf maintained the concentration of WAD cyanide in open waters at less than 50 ppm throughout the recertification period. The auditors reviewed time serious graphs of concentrations of WAD cyanide in pad effluent to the ponds and plant inflow from the ponds to verify compliance.

Wharf had no cyanide-related wildlife mortalities during the recertification. The auditors reviewed wildlife mortality reports to verify compliance.

Wharf manages ponding on the pads, if it occurs, according to a written procedure that specifies to reduce flow to the area, to disperse the ponded solution, and to increase wildlife surveillance of the affected area. Wharf applies cyanide to the top surface of the heap leach pads with buried drip emitters, thereby reducing the potential for ponding. The auditors observed one small pond during the site visit, but Wharf quickly fixed the broken coupler and the pond disappeared.

Wharf applies leach solution to the pad side slopes with wobblers located on benches. The auditors did not observe any overspray at the time of the site visit.

Standard of Practice 4.5: **Implement measures to protect fish and wildlife from direct or indirect discharges of cyanide process solutions to surface water.**

☒ **in full compliance with**

Wharf is
☐ in substantial compliance with **Standard of Practice 4.5**
☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 4.5, requiring the operation implement measures to protect fish and wildlife from direct or indirect discharges of cyanide process solutions to surface water.

Wharf is permitted to discharge to surface water at two stations (006A and 006B). There is no surface water standard for free cyanide in South Dakota, but the daily surface water standard for WAD cyanide is 0.022 ppm. The auditors reviewed analytical data for Station 006A showing that concentrations of WAD cyanide were less than 0.010 ppm throughout the recertification period. The discharge pipe at Station 006B has been decommissioned since 2007 or 2008.

Wharf also monitors surface water at three stations potentially related to the cyanide facilities. The auditors reviewed analytical data showing either no flow or concentrations of WAD cyanide less than 0.010 ppm for the recertification period (except for one result at 0.014 ppm). These three stations also represent possible locations for indirect discharges to surface water. The state does not require analysis of free cyanide, but it is unlikely that free cyanide is greater than 0.022 ppm when WAD cyanide is less than 0.010 ppm. As such, Wharf is not engaged in remedial activity to prevent degradation of surface water quality related to cyanide.

Standard of Practice 4.6: **Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.**

☒ **in full compliance with**

Wharf is
☐ in substantial compliance with **Standard of Practice 4.6**
☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 4.6, requiring the operation implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.

Wharf has implemented measures to manage seepage and protect beneficial uses of groundwater, which is defined as drinking water for the Madison Aquifer where the mine is located. These measures include low

permeability barriers, seepage collection systems, monitoring, and maintenance. These measures are largely the same as described in the initial audit report.

The heap leach pad, ditches, and process ponds are underlain by an integral system consisting of HDPE liner and leachate detection, collection and recovery system (LDCRS). All pipelines with cyanide solution are contained within the HDPE-lined ditches. The pad and ditches have a single solution collection layer (i.e., double-lined), whereas the ponds have two solution collection layers (i.e., triple-lined). The auditors reviewed the LDCRS tracking spreadsheet to confirm that monitoring was conducted daily throughout the recertification period and that measures were taken in accordance with the state-approved action plans.

Wharf inspects and repairs ponds when they are dry. Wharf has in-house capabilities to patch geomembrane liners. The auditors reviewed pond inspection forms that showed that selected ponds were inspected and repaired when they were dry during the recertification period.

The process plant has concrete secondary containments for tanks and pipelines. The plant secondary containments all ultimately drain to the process ponds, thus providing tertiary containment and further protection of groundwater. The auditors observed the concrete to be in good condition with sealed joints and cracks where present.

The Department of Environment and Natural Resources has established a standard of 0.75 ppm for WAD cyanide in groundwater. Wharf monitors groundwater at monitoring wells around the pads, ponds, and plant, as well as three wells further downgradient of the pads. The auditors reviewed time series graphs of WAD cyanide data that showed all results were less than 0.010 ppm (i.e., non-detects) during the recertification period.

Wharf has neither mill tailings nor underground workings, but the auditors considered offloading of spent ore from the on-off pads as analogous to a backfilling operation for the purposes of the Code. The regulatory standard for off-loading a pad is 0.5 ppm WAD cyanide. The auditors reviewed five letters from the Department of Environment and Natural Resources approving removal of spent ore during the recertification period to verify compliance.

Seepage from the cyanide facilities has not caused concentrations of cyanide in groundwater to exceed standards, and therefore Wharf is not engaged in remediation of cyanide in groundwater.

Standard of Practice 4.7: Provide spill prevention or containment measures for process tanks and pipelines.

Wharf is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 4.7**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 4.7 requiring that the operation provide spill prevention or containment measures for process tanks and pipelines.

Wharf has not changed the configuration of the cyanide storage tank, process tanks and columns, secondary containments, and pipeline spill prevention/containment since the initial audit. Therefore, the findings are still valid and are summarized below.

The cyanide storage tank, as well as all process tanks and columns inside the plant, are provided with secondary containment; there are no tanks or columns without secondary containment. The cyanide storage tank is installed on steel rails within a concrete secondary containment structure that drains by gravity to the adjacent Overflow Pond, which provides tertiary containment. The volume of the secondary containment exceeds 125 percent of the tank volume. The auditors observed the concrete to be in excellent condition.

The process tanks and columns inside the plant building are also contained within secondary containment provided by the building's concrete floor and stem walls. Containment is provided by sloped floors, wall cutouts and sumps that all ultimately report to the Overflow Pond or to the pump boxes on the lower level of the plant.

The pump boxes, should they overflow, also report to the adjacent Overflow Pond via a concrete ramp. In essence, the Overflow Pond has more than enough capacity to provide tertiary containment for the entire plant. The auditors observed the plant floor, its age notwithstanding, to be in good condition with joints and cracks, where present, that were properly sealed.

Procedures to discharge secondary containment solutions to the environment are not needed because all solutions and precipitation ultimately flow by gravity to the Overflow Pond or are reincorporated into the process circuit.

The auditors observed that all reagent-grade cyanide pipelines are either located over concrete containment or constructed as pipe-in-pipe when over natural ground. All leach solution pipelines are constructed within HDPE-lined ditches that report back to the Pregnant Pond. There are no areas where cyanide pipelines present a risk to surface water where special measures would be required.

The cyanide tanks and pipelines are made from mild steel, stainless steel, HDPE and PVC, all of which are compatible with cyanide and high pH conditions.

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.**

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 4.8**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 4.8 requiring that operations implement QA/QC procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

Wharf has implemented a QA/QC program for the cyanide facilities that were modified during the recertification period. The auditors reviewed Construction Quality Assurance (CQA) manuals and results to verify the existence of a QA/QC program for the relining of Pads 1, 4, and 5. The auditors also reviewed these documents to verify that the content of the program including the appropriate earthwork observation and liner testing for the relining projects.

Wharf has retained the QA/QC records identified in the initial audit report, as well as the QA/QC records for the modified facilities during the recertification period. Wharf has a master table of design and QA/QC evidence. The auditors checked the links in this master table to verify that electronic versions of the documents were retained.

Wharf conducts the QA/QC with qualified in-house staff. The auditors reviewed the training certificate for the lead inspector and a letter from the Department of Environment and Natural Resources approving the in-house staff for QA/QC work. In addition, Wharf submits CQA documentation for review by the Department of Environment and Natural Resources. The auditors reviewed letters approving the CQA documentation and loading of the relined pads as further evidence of qualified review.

Standard of Practice 4.9: **Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and groundwater quality.**

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 4.9**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 4.9 requiring that operations implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and groundwater quality.

Wharf has developed written procedures for collection of groundwater and surface water samples, as well as for preservation, storage, handling, and documentation. Wharf has also developed procedures for wildlife

mortality monitoring, retrieval, and reporting. These procedures were developed in-house by staff with appropriate education, training, and experience. The sampling procedures describe when, where, and how to collect the samples, including containerization, preservation, handling, shipping, and chain-of-custody documentation. These procedures are the same as reviewed during the initial certification audit.

Sampling conditions that may affect sample quality are documented in a field notebook for groundwater sampling and on field forms for surface water sampling. The auditors reviewed a complete set of logbook pages and field forms from throughout the recertification period to verify compliance.

Wharf monitors for cyanide in groundwater and surface water downgradient of the cyanide facilities. There are nine monitoring wells around the pads, ponds, and plant, as well as three wells further downgradient. There are three surface water stations potentially related to cyanide facilities. The auditors reviewed data for the groundwater monitoring wells and surface water monitoring stations, as well as a map of their locations, to verify compliance.

Wharf inspects for wildlife mortalities daily and records the inspections on field forms. The auditors reviewed a complete set of inspection forms from throughout the recertification period to verify compliance.

The monitoring frequency is adequate to characterize each medium, and is targeted to the spring snowmelt period (“frechette”) when streams run high. Selected groundwater monitoring wells are sampled in January, April, May, and August, while other wells are sampled monthly. Surface water monitoring stations are sampled every other week, and all other surface water locations are sampled in January, April, May, and August.

PRINCIPLE 5 – 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.**

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 5.1**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 5.1 requiring that the site plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

Wharf has prepared a written plan specifically for decommissioning the cyanide facilities. The plan applies to the appropriate cyanide facilities; i.e., the heap leach pads, the process ponds, and the plant. This plan describes measures to decontaminate cyanide-related equipment by power washing and rinsing until WAD cyanide concentrations are less than 0.5 ppm. It also describes measures for disposition of residual cyanide solutions and management of heap leach drain-down solutions by treatment in the Neutralization Pond with the existing hydrogen peroxide system. The plan contains a section with a general implementation schedule of 6 years after the cessation of ore processing The plan also contains requirement that it be reviewed and revised (if needed) annually. The auditors reviewed the 2013, 2014, and 2015 versions to verify compliance.

Standard of Practice 5.2: **Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.**

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 5.2**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with the Standard of Practice 5.2 requiring that the site establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

Wharf has estimated costs for fully funding third party implementation of the decommissioning activities using a cost model developed by the State of South Dakota. The activities covered include heap leach drain-down neutralization and offload, pond neutralization, process facilities decontamination and dismantlement, and foundation demolition and reclamation. The basis for the third party costs are quotes for a local equipment vendor and modified Bacon-Davis wage rates provided by the state. The decommissioning plan states that

costs will be updated annually and the auditors reviewed the 2013, 2014, and 2015 versions to verify compliance. Wharf obtained new bonds in 2015 when Goldcorp sold the mine to Coeur. The auditors reviewed four bonds approved by the state that showed the total bond amount was over twice the amount estimated for cyanide decommissioning activities alone.

PRINCIPLE 6 – 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 eliminated, reduce and control them.

Wharf is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 6.1**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 6.1 requiring that the site identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.

Wharf has developed written SOPs that describe the management and operation of the cyanide facilities. The SOPs have been developed to eliminate, reduce and control exposure to cyanide. Individual task specific SOPs provide details for safe operation of the cyanide facilities, personal protective equipment (PPE) requirements and inspection requirements. The SOPs have been updated, as needed, to reflect changes in procedures during the recertification period.

Pre-work inspections prior to a cyanide offload event are completed by process personnel and cover the key elements to prevent exposures and releases during offloading (e.g., verification of tank level, pH verification, presence of any leaks in the cyanide tanker or valves, hydrogen cyanide gas (HCN) concentrations, and others). In addition, inspections of the cyanide facilities are conducted on a regular basis. Inspections include cyanide tanks, pipes, pumps, secondary containments, signage, safety devices (e.g., safety showers, eyewash stations, cyanide kits and fire extinguishers), liners, ponding, and wildlife, and cover the cyanide offload and storage areas, the plant, the process ponds and leach pad areas.

Wharf has developed procedures to be used when a facility or operational/maintenance change/modification is proposed. The procedures consider the involvement of process, environmental and safety personnel in the assessment of the proposed changes. All changes are communicated to the workforce and training requirements updated. The auditors reviewed seven completed change forms from throughout the recertification period to verify compliance.

Wharf has safety meetings and conducts task observations to provide information and training to employees as well as to solicit input from employees on worker safety issues. The auditors reviewed meeting minutes and task observation forms from throughout the recertification period to verify compliance.

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.**

☒ **in full compliance with**

Wharf is

☐ in substantial compliance with **Standard of Practice 6.2**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 6.2 requiring that the site operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

Wharf monitors and maintains the proper pH to prevent the formation of HCN as recommended in the SOPs. Fixed HCN monitors are installed in areas of potential exposure to cyanide (two in the process plant and one inside the cyanide pump house). In addition, operators use portable HCN meters to conduct maintenance work and other cyanide tasks. HCN sensors are set to alarm at 4.7 ppm and 10 ppm. Both alarms trigger evacuation. HCN monitors are maintained, calibrated and inspected as recommended by the manufacturer. Warning signs are posted in areas where cyanide is used to alert workers that cyanide is present and that smoking, eating and drinking are not allowed. Pipes carrying cyanide are marked and the direction of flow is indicated with arrows on the pipe. In addition, signs with the color codes assigned for the each solution used at the process plant are placed at the plant entrances. The silver color is used for high grade cyanide solutions and the red color for low grade cyanide solutions.

Showers, low-pressure eye wash stations, and dry powder fire extinguishers are located at strategic locations throughout the operation and are maintained, inspected and tested on a regular basis. Safety showers and eyewash stations were operational. Material Safety Data Sheets (MSDSs) including first aid procedures related to cyanide are available in each cyanide first aid kit (including the process plant operator room) and are located in the cyanide storage tank area inside the CCIX building door. The instructions are in English, the language of the workforce.

Wharf investigates all incidents in accordance with a written procedure. Wharf staff stated that no cyanide exposure incidents occurred during the recertification period. In lieu of cyanide exposure incidents, the auditors reviewed an example of completed incident investigation for a 2013 cyanide spill to verify that the investigation procedure has been implemented.

Standard of Practice 6.3: **Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.**

☒ **in full compliance with**

Wharf is

☐ in substantial compliance with **Standard of Practice 6.3**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 6.3 which requires that the site develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

Wharf has water, oxygen, cyanide antidote kits, artificial external defibrillator (AED), radio and telephone in the areas where cyanide is present. Cyanide antidote kits include amyl nitrite, oxygen, and AED. Wharf also has some cyanokits (hydroxocobalamin) at the site. The administration of the cyanokit is limited to paramedics and professional medical staff only and the kit is intended to travel with the exposed worker to the local hospital. The auditors confirmed that all antidote kits are stored at the correct temperature and that the antidotes have not expired. First aid equipment is inspected regularly. Verification was by visual examination and review of inspection records.

Wharf has developed an Emergency Response Plan (ERP) (dated October 14, 2015). The ERP includes the necessary procedures to respond to cyanide exposures and releases. Chapter 18 of the ERP addresses first aid rescue procedures based on intoxication routes, amyl nitrite administration procedures, emergency transportation, recovery, decontamination. In addition, the ERP includes procedures for cyanide spills, leaks, fire involving cyanide, process pump failures, cyanide spill sampling, and others. The plan also describes evacuation procedures, emergency contact information, reporting requirements and others.

Wharf has its own onsite capability (equipment and trained staff) to provide first aid assistance to workers exposed to cyanide. Wharf has cyanide antidote kits as well as emergency responders and cyanide first aid trained personnel per shift. In addition, two Wharf employees are certified paramedics by the State of South Dakota and can administer the cyanokit in an emergency. Wharf has developed procedures to transport workers exposed to cyanide to locally available qualified off-site medical facilities for further treatment, if needed. Wharf has made formalized arrangements with two local hospitals, the Rapid City Regional Hospital and the Lead/Deadwood Regional Hospital. Wharf conducted cyanide exposure mock drills and tested the relevant emergency procedures on an annual basis during the recertification period.

PRINCIPLE 7 – 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.

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 7.1**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 7.1 which requires that the site prepare detailed emergency response plans for potential cyanide releases.

Wharf has developed plans and SOPs that address emergency response to potential accidental releases of cyanide. Wharf plans contain procedures for potential scenarios such as: 1) cyanide intoxication; 2) accidents during cyanide transportation; 3) releases during unloading; 4) release of cyanide during fires and explosions; 5) pipe, valve or tank ruptures; 6) overtopping of ponds; 7) power outages and pump failures; 8) uncontrolled seepage; 9) failure of the heap leach facility; 10) cyanide spill control and clean-up; and 11) decontamination and emergency evacuation. The auditors reviewed these plans and procedures to verify compliance.

Standard of Practice 7.2: Involve site personnel and stakeholders in the planning process.

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 7.2**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 7.2 which requires that the site involve site personnel and stakeholders in the planning process.

Wharf involves site personnel and stakeholders in the planning process and keeps their emergency response plans current. Wharf solicits the input of its workforce and local response agencies in the emergency response planning through safety meetings, training sessions and mock drills.

Worker input in developing and evaluating health and safety procedures is via direct communication between supervisors and operators and during weekly safety meetings. In addition, process personnel and Emergency Response Team (ERT) members participated in the cyanide related mock drills conducted in 2013, 2014 and 2015.

Wharf has made formalized arrangements with two local hospitals, the Rapid City Regional Hospital and the Lead/Deadwood Regional Hospital for medical treatment related to cyanide exposure. The auditors reviewed a copy of the November 2014 letter sent by Wharf to these two hospitals. The purpose of the letter was to inform the hospitals of the use of liquid sodium cyanide at Wharf, verify that the hospital's staff are qualified to treat cyanide exposure patients, and to ask them to maintain a cyanide antidote kit. The hospitals signed the letters and returned them to Wharf.

Wharf has provided training in Emergency Responder and Hazard Training for Cyanide in January 2014 to representatives of all local response agencies including the Butte County Ambulance, Lawrence County Emergency Management, Lead/Deadwood Regional Hospital, Rapid City Fire Department, Lead Fire Department and others. The January 2013 mock drill included the Lawrence County emergency director, Paul Thomson, and the county ambulance.

Wharf also held annual meetings with the Terry Valley Home Owner's Association, the closest community to the operation, to discuss Wharf mining expansion including their certification with the ICMI in 2013, 2014 and 2015.

Wharf keeps a stakeholder contact information list in its ERP including the cyanide supplier (Cyanco), outside responders, regulatory agencies, outside medical facilities and other stakeholders.

Verification was through interview with safety personnel and review of mock drill documentation, meeting records and letters sent to the hospitals.

Standard of Practice 7.3: Designate appropriate personnel and commit necessary equipment and resources for emergency response.

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 7.3**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 7.3 which requires that the site designate appropriate personnel and commit necessary equipment and resources for emergency response.

Wharf has committed emergency response personnel and equipment to manage cyanide incidents at the operation and to coordinate transportation to local hospitals for further treatment if needed. The ERP defines the responsibilities of the members of the Control Group (i.e. Mine General Manager (Control Officer), Operations Manager, Administration Manager, Environmental Management, Safety Coordinator and others.). This group will be responsible for coordinating specific segments of the emergency response plan and formulating strategies to control an emergency situation. The plan also includes procedures for alternate Control Group members.

Wharf has identified its ERT and emergency coordinators and has an updated list of them including their name and 24-hour contact information.

Wharf has emergency responders to respond to a cyanide emergency. Emergency responders are trained in CPR, rescue, confined space, cyanide first aid and decontamination (practical training), spill control including the use of the Self Contained Breathing Apparatus (SCBA) and ropes.

Wharf has onsite response capability for cyanide first aid, evacuation procedures and spill control including the use of the self-contained breathing apparatus (SCBA). Wharf will rely on local response agency for Hazmat response. The plan includes contact information of outside responders. Wharf has engaged in consultation with outside entities (i.e. Rapid City Hazardous Team, Lawrence County Emergency Management, Lawrence County Sherriff's Department, Lead Fire Department, Lead/Deadwood Regional Hospital and ambulance, and Rapid City Regional Hospital) through meetings and training sessions.

Standard of Practice 7.4: Develop procedures for internal and external emergency notification and reporting.

☒ **in full compliance with**

Wharf is
☐ in substantial compliance with **Standard of Practice 7.4**
☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 7.4 which requires that the site develop procedures for internal and external emergency notification and reporting.

The ERP details the procedures including current contact telephone numbers for internal (i.e., Wharf management, emergency response coordinators and responders, and others) and external emergency notification (i.e., Cyanco emergency response service, local hospitals, regulatory agencies, and other local entities and the media).

Standard of Practice 7.5: Incorporate in response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

☒ **in full compliance with**

Wharf is
☐ in substantial compliance with **Standard of Practice 7.5**
☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 7.5 which requires that the site incorporate in response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

Wharf has prepared cyanide response and remediation procedures for potential cyanide releases. The ERP and the Spill Contingency Plan include procedures to contain, recover and clean up liquid cyanide spills. Spilled cyanide solutions within the process plant will be returned to the process circuit. Emergency containment structures would be constructed, if necessary and possible, to minimize the extent of the release. Spilled cyanide solutions are to be decontaminated as necessary with sodium hypochlorite. Contaminated soil and other material will be disposed of in the leach pad area. The ERP and Spill Contingency Plan require the monitoring of the affected area after cleaning and describe what final cyanide concentration will be allowed in residual soil as evidence that the release has been cleaned up (i.e., < 0.5 mg/L WAD cyanide).

Soil samples would be taken following clean-up to confirm complete removal of all cyanide contaminated materials. Wharf has developed procedures to sample and monitor soils and water in the event of a cyanide spill.

Wharf does not consider the use of chemicals to treat cyanide that has been released into surface waters or dry drainages. In case cyanide is detected in water supplies, Wharf will immediately prohibit usage of that water supply and provide bottled water. The water supply well used by Wharf is located upgradient of the cyanide facilities.

Standard of Practice 7.6: Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 7.6**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 7.6, which requires that the site periodically evaluate response procedures and capabilities and revise them as needed.

Wharf evaluates and updates its ERP and Spill Contingency Plan annually, following mock drills and actual incidents as needed. Wharf conducts annual mock drills based on likely cyanide release/exposure scenarios to test the response procedure, and incorporates lessons learned from the drills into its response planning. The auditors reviewed the revision section (that lists the revision dates) in the ERP and Spill Contingency Plan to confirm that these plans have been reviewed and revised as needed. The auditors also reviewed the mock drill reports and supporting documentation (including training records) to verify that the action items identified by the mock drills were completed.

PRINCIPLE 8 – 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.

☒ **in full compliance with**

Wharf is
☐ in substantial compliance with **Standard of Practice 8.1**
☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 8.1 which requires that the site train workers to understand the hazards associated with cyanide use.

Wharf provides initial and refresher training on cyanide hazard awareness and spills to all employees and contractors that have the potential to be exposed to cyanide. The training is provided as part of the Mine Safety and Health Administration (MSHA) new hire training and annual MSHA refresher training, as well as annual spill prevention training for environmental purposes. Wharf retains all cyanide training records including test results demonstrating an understanding of the training. Verification was by interview with process and training personnel, random interviews with operators, review of employee training materials, and review of records from throughout the recertification period.

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.

☒ **in full compliance with**

Wharf is
☐ in substantial compliance with **Standard of Practice 8.2**
☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 8.2 which requires that the site train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

Wharf trains its staff to perform their normal production tasks, including cyanide unloading, production and maintenance, with minimum risk to worker health and safety in a manner that prevents unplanned cyanide releases and exposures. All personnel in job positions that involve cyanide receive training on how to perform their assigned tasks prior to start working with cyanide. Training elements for specific jobs are identified in “the Wharf Mine Task Training Checklist” developed for each operator level. This checklist lists the SOPs to be covered as part of the task specific training, as well as the tasks the operator should be able

to perform following completion of the training. This checklist has been developed for each different operator level and process area.

All task-specific training is conducted by the Plant Supervisor and other process personnel that have several years working in the process area. In addition, Wharf uses qualified trainers under its approved MSHA Training Plan. Wharf requires and provides annual refresher training related to cyanide management in Chemical Hazard Awareness Program (CHAPS), Cyanide Awareness and Spills Prevention Training. Refresher training in SOPs is provided during weekly safety meetings in the process areas. In addition, the Plant Supervisor conducts task observations of process operators to ensure that employees continue to perform their jobs in a safe and environmentally protective manner. If refresher training is needed based on the Plant Supervisor's observations, this refresher is provided to the operator individually.

Training records are retained throughout an individual's employment. The records include the name of the employee and the trainer, the date of training, the topics covered, and test results demonstrating an understanding of the training materials. The auditors reviewed training records and training materials for the recertification period to verify compliance.

Standard of Practice 8.3: **Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.**

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 8.3**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 8.3 which requires that the site train appropriate workers and personnel to respond to exposures and environmental releases of cyanide.

Personnel responsible for cyanide unloading, production, and maintenance, as well as emergency coordinators and the ERT are trained in procedures to be followed if cyanide is released, decontamination, and first aid. These procedures are described in the Spill Contingency Plan and the ERP. These plans address several cyanide exposure scenarios and describe procedures for cyanide exposure (through inhalation, absorption, skin contact and ingestion), decontamination, evacuation, emergency transportation, emergency contact information, spill containment and clean up measures, and reporting requirements. In addition, the ERT members receive advanced training including CPR/Frist Aid (Amyl nitrite administration), SCBA, confined space and Spill Control during the recertification period. Refresher training in the procedures described in the Spill Contingency Plan and the ERP is provided through meetings and annual training sessions. Wharf has made local response agencies familiar with those elements of their ERP related to cyanide through training sessions, meetings, and agreements with the local hospitals.

Wharf conducted annual mock drills throughout the recertification period. These drills were based on likely cyanide release/exposure scenarios. Drills were evaluated from a training perspective to determine if personnel have knowledge and skills required for effective response. The auditors reviewed the drill reports and briefings to verify compliance.

Training records are retained and include the name of the employee and the trainer, the date of training, the topics covered, and test results demonstrating an understanding of the training materials.

PRINCIPLE 9 – DIALOGUE

Engage in Public Consultation and Disclosure

Standard of Practice 9.1: Provide stakeholders the opportunity to communicate issues of concern.

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 9.1**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 9.1 which requires that the site provide stakeholders the opportunity to communicate issues of concern.

Wharf has an open door policy that allows the opportunity for stakeholders to communicate issues of concerns through community meetings, a community feedback program, public suggestion boxes, and direct contact. Wharf participates in annual public meetings with the Terry Valley Home Owner's Association (the closest community to the mine), the South Dakota Board of Minerals and Environment, and the Lawrence County Commissioners. Wharf has maintained its Community Feedback Program, but has not received any cyanide-related input during the recertification period. A poster and suggestion boxes are available at the adjacent Terry Valley Ski Lodge. Before January 2015, the public could also obtain contact information via the Goldcorp website; after that date, the Coeur website provides similar contact information. To verify compliance, the auditors interviewed the Wharf Environmental Manager and reviewed records for public meetings from 2013 to 2015.

Standard of Practice 9.2: Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

☒ **in full compliance with**

Wharf is ☐ in substantial compliance with **Standard of Practice 9.2**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 9.2 which requires that the site initiate dialogue describing cyanide management procedures and actively address identified concerns.

Wharf has provided opportunities for public input on cyanide management via public meetings, tours, and public suggestion boxes. Wharf participates in annual public meetings with the Terry Valley Home Owner's Association (the closest community to the mine), the South Dakota Board of Minerals and Environment, and the Lawrence County Commissioners. Wharf has also interacted with regulators during the 2013 environmental audit conducted at the site by the Department of Environment and Natural Resources. Wharf provides tours to approximately 100 to 150 people annually. The tour members watch a safety induction

video that contains cyanide-related information. A poster and suggestion boxes are available at the adjacent Terry Valley Ski Lodge.

Standard of Practice 9.3: Make appropriate operational and environmental information regarding cyanide available to stakeholders.

Wharf is

☒ **in full compliance with**

☐ in substantial compliance with **Standard of Practice 9.3**

☐ not in compliance with

Summarize the basis for this finding:

The operation is in FULL COMPLIANCE with Standard of Practice 9.3 which requires that the site make appropriate operational and environmental information regarding cyanide available to stakeholders.

Wharf disseminates information regarding cyanide management in written and oral form. Written materials include PowerPoint presentations, press releases, newsletters/inserts, and journal articles. Wharf also disseminates information orally during meetings and tours, notwithstanding that the majority of the population is literate (i.e., approximately 93 percent of the people in Lawrence County, South Dakota have a high school education or higher).

Wharf is required to report cyanide-related hospitalizations and fatalities to federal MSHA and cyanide-related spills to the state Department of Environment and Natural Resources. No cyanide-related hospitalizations or fatalities have occurred during the recertification period. Wharf reported two cyanide-related spills to regulators during the recertification period. The auditors do not consider these two spills to constitute significant cyanide releases given that they were characterized by either a small volume or a low concentration. Moreover, Wharf managed these spills in a timely manner and the regulators closed out the incidents.

Report Signature Page

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