ICMI CERTIFICATION SUMMARY REPORT

Golden Sunlight Mine, Montana, United States of America

Submitted to:
International Cyanide Management Institute (ICMI)
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Washington, DC 20006
UNITED STATES OF AMERICA

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Report Number.
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1.0 SUMMARY AUDIT REPORT FOR GOLD MINING OPERATIONS

Name of Mine: Golden Sunlight Mine
Name of Mine Owner: Barrick Gold of North America Inc
Name of Mine Operator: Golden Sunlight Mines Inc
Name of Responsible Manager: Timothy B. Dimock
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State/Province: Montana
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2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

2.1 Mine Location

The Golden Sunlight Mine (GSM) is an open pit gold mine in Jefferson County, Montana, USA located on the eastern flank of a fault-bounded mountain range known as Bull Mountain. GSM is operated by Barrick's Golden Sunlight Mines, Inc. The address is 453 Mt. Hwy 2 East, Whitehall, Montana, 59759. It is located approximately six miles northeast of Whitehall, Montana in portions of Sections 17, 19, 20, 28, 29, 30, 32 and 33 of Township 2 North, Range 3 West, Section 6 of Township 1 North, Range 3 West, and Sections 24 and 25 of Township 2 North, Range 4 West. The nearest ranch is approximately 2.25 miles to the south. The nearest perennial watercourses are the Jefferson River approximately 2 miles to the south and the Boulder River approximately 3 miles to the east.

2.2 Background

GSM has operated since 1981 under a Hard Rock Mine Operating Permit (No.00065) issued jointly by the Montana Department of State Lands (DSL), since reorganized into Department of Environmental Quality (DEQ), and the U.S. Bureau of Land Management (BLM), and is presently operating under Amendment 014 to the original permit.

The mill was shut down in April 2009 and reopened in January 2011 to process ore from the East Area pit. Proven and probable mineral reserves as of 31 December 2010 was 539,000 ounces of gold.

GSM is mined by conventional open-pit methods. The ore treatment plant uses conventional carbon-in-pulp technology as well as Sand Tailing Retreatment (STR), designed to recover gold that would otherwise be lost in the process.

Open pit mining at GSM typically removes between 60,000 to 90,000 tons of material per day using conventional drill, blast, load and haul mining techniques. Approximately 2,400,000 tons of ore are hauled to the mill for processing each year.

There are two tailing impoundments at GSM. Tailing Impoundment No. 1 is no longer being used and has been reclaimed. Tailing Impoundment No. 2 is active.

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GSM mine covers an area of approximately 5,071 acres.

The GSM open pit is located just east of a major hydrologic divide that is coincident with a topographic ridge oriented north-south along the lower portion of the Bull Mountains. The active mine area encompasses both sides of the divide.

There is no perennial or intermittent streamflow out of the active mine area. However, the active mine area contains numerous incised drainage features that may exhibit ephemeral surface water flow in response to intense rainfall events. These events are generally infrequent and of short duration such that some drainage features may experience short-term runoff several times a year, and others may flow only once every several years. Since the ephemeral drainages at GSM are above the regional groundwater system, storm water rapidly infiltrates into the subsurface within the channel margins and provides a source of groundwater recharge.
SUMMARY AUDIT REPORT
Auditors Findings

☑ in full compliance with

Golden Sunlight Mine is:

☐ in substantial compliance with The International Cyanide Management Code

☐ not in compliance with

Audit Company: Golder Associates
Audit Team Leader: Sophie Wheeler, ICMI Pre-certified Lead Auditor
Email: swheeler@golder.com

Name of Other Auditors

<table>
<thead>
<tr>
<th>Name, Position</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Kent Johnejack, ICMI Pre-certified Mine Technical Specialist</td>
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Dates of Audit

The Certification Audit was undertaken over four days between 27 June 2011 and 30 June 2011.

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

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

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PRINCIPLE 1 – PRODUCTION

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

Production 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

☐ in substantial compliance with ☐ not in compliance with

Production Practice 1.1

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with 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.

GSM purchases all cyanide from the Cyanco Inc. (Cyanco) plant in Winnemucca, Nevada. This Cyanco plant was recertified in full compliance by the ICMI in 2010. The contract between Barrick Gold of North America and Cyanco, which includes GSM, requires that Cyanco only provide cyanide manufactured at an ICMI-certified plant.
PRINCIPLE 2 – TRANSPORTATION

Protect Communities and the Environment during Cyanide Transport

Transport 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

The operation is
☐ in substantial compliance with Transport Practice 2.1
☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with 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.

Barrick has contracts with Cyanco to provide cyanide to all of its North American operations, including the GSM. Contract Amendment No. 1 designates Cyanco as the responsible party for packaging, labelling, storage, transport, unloading, safety, security, and emergency response in accordance with the Code. Specific clauses in the contract amendment require compliance by Cyanco’s subcontractors with the Code and that the subcontractors are Code-certified.

Transport 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

The operation is
☐ in substantial compliance with Transport Practice 2.2
☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 2.2; require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

GSM contracts with its supplier, Cyanco, who in turn contracts with the transporter, TransWood Inc. (TransWood). GSM’s contract with Cyanco requires that all subcontractors must be certified by the ICMI. TransWood was first certified by the ICMI on October 11, 2006 and recertified on January 20, 2010. Bills of Lading showed Cyanco as the originator and TransWood as the only transporter.
PRINCIPLE 3 – HANDLING AND STORAGE

Protect Workers and the Environment during Cyanide Handling and Storage

Handling and Storage 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

The operation is

☐ in substantial compliance with Handling and Storage Practice 3.1

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with 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 facilities for unloading and storing cyanide at GSM have been designed and constructed in accordance with cyanide producers recommendations and accepted engineering practices. An independent professional engineer inspected the facilities in 2009 and judged them to be appropriately designed. The cyanide producer, Cyanco, has evaluated the facilities and judged them appropriate for accepting cyanide shipment. The unloading area is fenced and locked to prevent access by workers and is located within the larger minesite with fencing, gates, and security to prevent public access.

The nearest town is Whitehall, approximately 6 miles to the southwest of the mine. The nearest ranch is approximately 3 miles to the southwest. The nearest perennial watercourses are the Jefferson River approximately 2 miles to the south and the Boulder River approximately 3 miles to the east.

GSM only receives liquid cyanide. Liquid cyanide is unloaded on concrete and asphalt surfaces that minimize seepage. Any leakage on the unloading pad is directed to secondary containment with a sump that reports to the cyanide destruct circuit. To prevent overflows from the cyanide storage tanks, GSM has installed a high-level alarm on the two interconnected tanks that is connected to the control panel inside the plant and to an audible alarm. The two cyanide storage tanks are installed on solid concrete pedestals within the concrete and asphalt secondary containment, thus providing a competent barrier to leakage. The cyanide storage tanks are located outside the plant with natural ventilation and away from acids, oxidizers and other incompatible materials.

Handling and Storage 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

The operation is

☐ in substantial compliance with Handling and Storage Practice 3.2

☐ not in compliance with

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Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with 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.

GSM receives only liquid cyanide and therefore does not have to address reuse, rinsing, or disposal of containers. As part of the transporter's offload procedure, the tanker truck is inspected for secure valves and residues at the end of the offload. Both GSM and transporter procedures address the operation of valves and couplings during offloading. GSM does not have to address handling or stacking of containers because no containers are used. GSM's 120 Plan describes measures for timely cleanup of reagent grade spills or leaks. GSM's offloading procedure prescribes the steps for safe offloading, including Personal Protective Equipment (PPE) and observation by a combination of an operator during making and breaking of connections, and video camera observation at other times. The auditors observed an offload to confirm that procedures were being implemented.
PRINCIPLE 4 – OPERATIONS

Manage Cyanide Process Solutions and Waste Streams to Protect Human Health and the Environment

Operations 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

☐ in substantial compliance with

☐ not in compliance with Operations Practice 4.1

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with 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.

The cyanide facilities at GSM include the mill, the tailings pipelines, Tailings Impoundment #2, the East, West, and Old Seepage Basins, and the Tailings Impoundment #1 Pumpback System. Tailings Impoundment #1 has been closed since 1995. GSM has developed five operating plans and 25 standard operating procedures (SOPs) (relevant to cyanide) for the safe operation of these cyanide facilities. The operating plans also describe the assumptions and parameters for the facilities, as well as the required monitoring, inspections, and preventative maintenance. GSM has developed a Management of Change procedure and provided examples of its use, including sign off by environmental staff. Three of the operating plans and one SOP contain contingency measures for the mill, tailings impoundment, cyanide emergencies, and seepage basins. GSM inspects the tanks, pipelines, valves, pumps, and secondary containments at the mill on a regular basis, from daily to monthly depending on the equipment or item. GSM inspects the tailings pipelines, impoundment, seepage basins, leak detection systems, and pumpback wells on a daily basis, with more in depth inspections every 6 to 8 weeks and an annual inspection by the engineer on record. Inspections are dated and named, and contain descriptions of deficiencies; corrective actions are tracked through the preventative maintenance program. The preventative maintenance program consists of both scheduled (proactive) and unscheduled (corrective) activities. The preventative maintenance program is based on an evaluation of critical equipment, including a compilation of redundant equipment, spare equipment, and/or spare parts. GSM maintains a backup generator for the seepage basins at the tailings impoundments and another backup generator for lighting at the mill. The mill is designed with check valves and backflow preventers such that all solution movement stops quickly in the event of a power outage. The tailings pipeline from the mill to the impoundment would drain by gravity during a power outage, and its volume is small compared to the available capacity of the impoundment.

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

☒ in full compliance with

☐ in substantial compliance with

☐ not in compliance with Operations Practice 4.2
Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.2; introduce management and operating systems to minimise cyanide use, thereby limiting concentrations of cyanide in mill tailings.

GSM evaluated cyanide addition rates with bottle roll tests prior to mill restart in 2010. Once the mill restarted, GSM attempted to optimize cyanide addition rates by side-by-side testing of different rates in the 1A and 1B leach trains. Although these test results were too noisy to be useful, GSM did attempt to optimize addition rates. GSM has developed a SOP for recovery circuit operators to guide adjustments to the cyanide addition rate, as well as the rates of other reagents. GSM adjusts cyanide addition rates and pH manually with operator checks three times per shift at four locations in the mill. Operator log sheets verified that the manual system was implemented.

Operations Practice 4.3: Implement a comprehensive water management programme to protect against unintentional releases.

☐ in full compliance with
☐ in substantial compliance with
☐ not in compliance with

Operations Practice 4.3

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.3; implement a comprehensive water management programme to protect against unintentional releases.

GSM employed a third party consulting company to develop a water balance model that is comprehensive and probabilistic. The model contains the appropriate cyanide facilities (mainly the Tailings Impoundment #2) and the appropriate factors, including: tailings deposition, precipitation, evaporation, seepage, undiverted run-on, pumpback water, and reclaim water. The model does not include freeze-thaw and power outages because the model's developers judged them to be negligible at GSM. There are no discharges to surface water to be included in the model. The model is probabilistic because it is based on a stochastic 100-year projection of precipitation that includes annual and seasonal variations. GSM has run the water balance model for the most extreme event possible, the Probable Maximum Precipitation. GSM monitors pool levels in Tailings Impoundment #2 and the East, West, and Old Seepage reclaim basins on a daily basis. The engineer of record also inspects the Tailings Impoundment #2 annually. The run-on diversion channel for the tailings area is inspected routinely after significant rainfall. Tailings Impoundment #2 is operated with more than the required 3-feet of freeboard, as shown in monthly water balance summaries. GSM collects weather data at an on-site station and updates the water balance monthly. Results are communicated in a monthly memorandum so that supervisors can adjust operating practices if necessary.

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

☐ in full compliance with
☐ in substantial compliance with
☐ not in compliance with

Operations Practice 4.4

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Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.4; implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.

GSM has restricted wildlife access to the tailing impoundment area and the reclaim basin area with an 8-foot high wildlife fence. GSM has installed a cyanide destruct circuit at the mill to maintain WAD cyanide concentrations below 50 mg/l in the tailings slurry and decant pool. GSM provided data in graphical and tabular form that demonstrated WAD cyanide concentrations were from approximately 4 to 13 mg/l in Tailings Impoundment #2 and less than 1 mg/l in the reclaim basins. GSM’s measures have been effective in preventing wildlife mortalities, as no mortalities were noted in the 2010 annual report to regulators. GSM does not have a heap leach, and therefore the issue of overspray is inapplicable.

There are no heap leach facilities or solution ponds at the site.

Operations 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

☐ in substantial compliance with

☐ not in compliance with

Operations Practice 4.5

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.5; implement a comprehensive water management programme to protect against unintentional releases.

GSM does not have a direct discharge to surface water. Cyanide facilities are operated to not discharge to the ephemeral washes at the site and the nearest perennial surface water (Jefferson Slough) is found approximately three quarters of a mile to the southwest of the tailings impoundment area. There is no established surface water mixing zone because there is no surface water discharge. GSM has a potential indirect discharge to surface water via groundwater seepage from the tailings impoundment area. GSM monitors two surface water stations downstream of the potential indirect discharge. The most recent data show total cyanide concentrations <0.005 mg/l (i.e., non-detects), which means the free cyanide concentrations must be less than 0.022 mg/l. The aquatic life standards set by the DEQ are 0.022 and 0.0052 mg/l for acute and chronic levels of total cyanide, respectively. According to GSM staff, the potential indirect discharges have never resulted in total cyanide concentrations above the detection limit of 0.005 mg/l at the two downstream stations, with the occasional exception of laboratory error.

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

☑ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

Operations Practice 4.6

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Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.6; implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.

GSM has implemented measures to protect the designated beneficial uses of drinking water and livestock use for groundwater downgradient of the operation. Measures to prevent and manage potential seepage include impermeable surfaces at the mill; secondary containment for pipelines; geomembrane-liner for the active Tailings Impoundment #2; geomembrane-lined reclaim and overflow ponds; and pumpback well systems for the closed unlined Tailings Impoundment #1 and the reclaim/overflow ponds. GSM has met the numerical standard of 0.2 mg/l for total cyanide established by the DEQ at the point of compliance wells downgradient of the tailings area. The most recent data submitted to regulators shows non-detect concentrations of total cyanide at the two points of compliance wells for the tailings area. GSM has operated three pumpback systems around the unlined Tailings Impoundment #1 since seepage impacts were noted in 1983. GSM has operated a smaller pumpback system downgradient of the reclaim and overflow ponds for Tailings Impoundment #2 since the mid-1990s. These pumpback well systems are part of a groundwater mixing zone permitted by the DEQ. Based on analytical data submitted to regulators, these pumpback systems have performed as intended to preserve beneficial uses of groundwater downgradient of the points of compliance.

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

☒ in full compliance with

☐ in substantial compliance with

☐ not in compliance with Operations Practice 4.7

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 4.7; provide spill prevention or containment measures for process tanks and pipelines.

GSM has provided secondary containments for all cyanide-related tanks, and these containments are in good condition. Secondary containments for the reagent-grade tanks, leach tanks, and horizontal tank are outside the mill building and consist of concrete walls and concrete or asphalt floors with liner underneath. Secondary containments for all other process tanks are inside the mill building and consist of concrete walls, curbs, and floors. Each of the two drop towers along the slurry pipeline has concrete secondary containment and concrete overflow containment. All process tanks are mounted on solid concrete pedestals; the drop towers are mounted on the solid concrete floor of the secondary containment. GSM has no cyanide-related tanks without secondary containment. GSM contracted with a professional engineer to survey the secondary containments at the mill and draw conclusions regarding capacity. All containments and enclosures provided more than 110% capacity of the largest tank within the enclosure. The drop tower containments on the tailings slurry are sized for 10 minutes of slurry flow at 1,500 gallons per minute, but any overflow would follow natural topography to the Tailings Impoundment #2 and GSM has procedures for cleaning up any such spills. Any solutions, whether cyanide or precipitation, in secondary containments at the mill report to sumps with automatic pumps, which in turn send the solutions either back to the tanks, the drop towers, or to the cyanide destruct circuit. Any solutions in the drop tower secondary containments are returned to the slurry pipeline. Remaining tailings solids, if any, are manually removed and disposed at the Tailings Impoundment #2. GSM has provided secondary containment for all cyanide related pipelines. All process pipelines at the mill run over concrete floors which drain to sumps. The tailings slurry pipeline has pipe-in-pipe containment. The tailings reclaim pipeline, depending on the reach, has pipe-in-pipe containment, or a
gravel-filled wrap-around liner, or a concrete conduit. GSM does not have any cyanide pipelines near or crossing perennial surface water. All tanks and pipelines were observed to consist of materials compatible with cyanide, such as stainless steel and HDPE.

**Operations 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
- ☐ in substantial compliance with
- ☐ not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

The operation is in full compliance with Standard of Practice 4.8; implement quality control/quality assurance (QC/QA) procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

GSM has implemented QC/QA programs for the mill, tailings pipelines, Tailings Impoundment #2, and the tailings reclaim and overflow ponds. The QC/QA programs addressed earthworks, including borrow characterization, stripping of unsuitable materials, materials placement, materials compaction, and compaction testing. GSM has retained the QC/QA documentation for the Tailings Impoundment #2 and the associated reclaim and overflow ponds. However, GSM has not retained documentation for the mill and the tailings pipelines and therefore has prepared alternative demonstrations. GSM has either employed or contracted with registered professional engineers to direct the QC/QA programs, or to provide the alternative demonstrations. For the mill, GSM obtained three letters from professional engineers addressing that prudent design and construction practices were employed. For the tailings pipelines (slurry and reclaim), GSM obtained a letter from the professional engineer that directed the design and construction stating that the pipelines were built, operated, and maintained as intended.

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

- ☒ in full compliance with
- ☐ in substantial compliance with
- ☐ not in compliance with

**Summarise the basis for this Finding/Deficiencies Identified:**

The operation is in full compliance with Standard of Practice 4.9; implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and groundwater quality.

GSM has prepared four plans and two standard operating procedures for monitoring wildlife, surface water, and groundwater. These plans and procedures were prepared by qualified GSM environmental staff and hydrogeological consultants. The May 2011 Surface and Groundwater Sampling Analysis Plan contains requirements for sampling locations, frequencies, field procedures, and laboratory methods. GSM completes a field sheet for each sample that annotates the weather and site conditions at the time of sampling. GSM monitors for discharges to groundwater in approximately 200 wells downgradient of the site. GSM monitors for indirect discharges to surface water (via groundwater seepage) at three locations...
downgradient. GSM does not monitor for discharges to surface water because there are no direct discharges to surface water. Notwithstanding the fact that the concentrations of WAD cyanide in the Tailings Impoundment #2 and reclaim ponds are below 50 mg/l, GSM monitors for wildlife mortalities on a daily basis. GSM monitors groundwater quarterly, surface water semi-annually, and ponds and impoundments quarterly.
PRINCIPLE 5 – DECOMMISSIONING
Protect Communities and the Environment from Cyanide through Development and Implementation of Decommissioning Plans for Cyanide Facilities.

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

☑ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

Decommissioning Practice 5.1

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 5.1; plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife and livestock.

The Operating and Reclamation Plan for the GSM describes the decommissioning of cyanide facilities at the Mill and Support Areas, and at the Tailings Impoundment No. 2. Decommissioning activities in general consist of disposition of final solutions, decontamination of components, and disposal, sale, or recycling of decontaminated components. The plan contains text regarding the sequencing and duration of decommissioning activities. GSM augmented this text with an internal Gantt chart showing the decommissioning schedule in more detail. The DEQ annually reviews this plan and requires update of selected items as necessary. The DEQ also requires the update and complete reissue of the plan every five years.

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

☑ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

Decommissioning Practice 5.2

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 5.2; establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

GSM has an external (regulatory) closure cost estimate prepared by the DEQ. This estimate is based on third party costs and includes decommissioning of cyanide facilities. The DEQ recalculate the closure costs every five years. GSM maintains two bonds for the full closure amount, as approved by the DEQ. GSM also prepares internal closure cost estimates annually that include decommissioning of cyanide facilities, but compliance with this Standard of Practice is fully satisfied by the regulatory cost estimate and bond.
PRINCIPLE 6 – WORKER SAFETY
Protect Workers’ Health and Safety from Exposure to Cyanide

Worker Safety Practice 6.1: Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.

☒ in full compliance with
☐ in substantial compliance with ☐ not in compliance with

Worker Safety Practice 6.1

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Standard of Practice 6.1; identify potential cyanide exposure scenarios and take measure as necessary to eliminate, reduce and control them.

GSM has procedures, SOPs and critical task procedures that describe the management and operation of the cyanide facilities. These plans and procedures cover the safe operation of the entire cyanide management facilities and cover decontamination prior to maintenance work. The documents describe PPE requirements, operator responsibilities, and procedures for using and handling cyanide.

The procedures detail the risks involved with each task and describe safe work practices and require pre-work inspections.

Before each shift an operator undertakes a Field Level Risk Assessment (FLRA) which includes describing the task, looking at what can go wrong, how it would affect the operator, how likely it is to happen and what the operator can do. A Pre Task Plan (PTP) is completed by the team working on a specific task prior to the start of the task and is completed with their supervisor. The PTP details the description of the task, hazards associated with each step and the required actions to eliminated/control the hazards. As part of this a Team Level Risk Assessment is also completed which also covers hazard identification and safety needs.

Procedures to review proposed process and operational changes and modification for their potential impact are controlled under ‘GSM’s Management of Change Procedure,’ which ensures that the safety aspects of proposed process and procedural changes address worker safety. Worker input is sought and implemented while developing or modifying safe work procedures, through the use of continuous improvement forms and safety meetings.

The mill standard operating procedures were written by the operators during 2010 while the mill was closed and then finalised by the cyanide code champion and safety department, demonstrating that GSM actively considered the operators input.

Worker Safety 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
☐ in substantial compliance with ☐ not in compliance with

Worker Safety Practice 6.2
Summarise the basis for this Finding/Deficiencies Identified:

GSM 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.

The Sand Tails Recovery SOP states that the pH target is 11.5.

The operation uses both fixed and portable HCN monitors to ensure that worker exposure to HCN gas is limited. Fixed Monitors have been placed in strategic locations throughout the mill to protect workers from exposure to instantaneous HCN gas levels.

Areas of potential exposure to 4.7 ppm of HCN have been identified and are signed. Safe working procedures have been developed to minimise the risk to workers from HCN gas. The operation also undertakes weekly HCN Surveys to assess operator’s exposure to HCN.

The fixed HCN monitors are full span calibrated every month in accordance with the manufacturer’s recommendations. Portable HCN monitors are equipped with a docking station that maintains the electrical charge, performs monthly calibrations, and registers a continuous, digital maintenance record. Every time the monitor is docked the high and low level alarms are tested.

Signs indicating the presence of cyanide are provided in all areas where cyanide is used and stored including the off-loading area, the process tanks and pipes. Signs are located at the doors of the Mill Buildings stating that, ‘All process solution contains cyanide’.

Emergency showers and eye wash stations are located around the plant where there is a risk of cyanide exposure. These are checked regularly.

Fire extinguishers are located throughout the facility and are inspected monthly by GSM staff. The fire extinguishers are serviced and inspected on an annual basis by the external company A&M Fire.

Pipes carrying cyanide are marked and the direction of flow is indicated with arrows on the pipes.

Procedures are in place to investigate cyanide exposures, and to modify procedures in the light of any findings from the investigations.

Worker Safety Practice 6.3: Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

☑ in full compliance with

☐ in substantial compliance with ☐ not in compliance with

Worker Safety Practice 6.3

Summarise the basis for this Finding/Deficiencies Identified:

GSM is in Full Compliance with Standard of Practice 6.3 which requires that the operation develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

The operation has cyanide antidote kits and other equipment required for treating potential victims of cyanide exposures at suitable locations throughout the operation.

First aid equipment (including cyanide antidotes) is regularly inspected to ensure it will function correctly and remains within its useful life.

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The operation has specific written plans for dealing with cyanide exposures.

The operation has appropriately trained First Responders and all workers have received basic cyanide awareness training which includes first aid training for cyanide exposure.

GSM has written to and received acknowledgement from three hospitals regarding the potential requirement to treat cyanide exposed victims at the medical facilities. These letters included details of the potential for cyanide exposed patients to be brought to the facility.

A live mock drill was conducted on May 5, 2011, which involved a light passenger vehicle colliding with a cyanide tanker truck and included cyanide exposed victims. The incident report included a critique for the exercise and action items most of which have been undertaken. The exception being having a siren to alert all employees in the general office complex of an emergency situation, which is still work in progress.
PRINCIPLE 7 – EMERGENCY RESPONSE

Protect Communities and the Environment through the Development of Emergency Response Strategies and Capabilities

Emergency Response Practice 7.1: Prepare detailed emergency response plans for potential cyanide releases.

☐ in full compliance with

☐ in substantial compliance with Emergency Response Practice 7.1

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

GSM is in Full Compliance with Standard of Practice 7.1 which requires that the operation prepare detailed emergency response plans for potential cyanide releases.

The Emergency Response Plan considers all reasonably foreseeable cyanide failure scenarios, including on-site transportation incidents. The cyanide supplier and transporter take primary responsibility for any accidents resulting in a cyanide spill up to the point of unloading at the operation.

The plan addresses the potential need for evacuating potentially affected communities. It specifies procedures for the use of specialised first aid equipment, antidotes and measures to control cyanide releases.

The contact numbers for Jefferson County sheriff’s office are detailed in the 120 Plan (What to do in the First Two Hours of an Incident), the Cyanide Emergency Response Plan and the EMS Chemical Spill and Control Plan. The Incident Command Staff Roles and Responsibilities document details on who is responsible for contacting the sheriff's office in order to evacuate potentially affected communities.

Emergency Response Practice 7.2: Involve site personnel and stakeholders in the planning process.

☐ in full compliance with

☐ in substantial compliance with Emergency Response Practice 7.2

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

GSM is in Full Compliance with Standard of Practice 7.2, which requires that the operation involve site personnel and stakeholders in the planning process.

GSM has involved the workforce and stakeholders such Whitehall Ambulance, Boulder Ambulance, Basin Ambulance, Pony/Harrison Quick Response Unit, Jefferson County Sheriff and Whitehall Fire Department in emergency response planning.

Local emergency responders have been involved in the emergency planning process.

GSM consults and communicates with stakeholders to ensure the emergency response plan is kept current.
Emergency Response Practice 7.3: Designate appropriate personnel and commit necessary equipment and resources for emergency response.

☐ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

Emergency Response Practice 7.3

Summarise the basis for this Finding/Deficiencies Identified:

GSM 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.

GSM has designated appropriate staff, equipment and other resources for emergency response. Through its attendance at Jefferson County Local Emergency Planning Committee (LEPC) meetings GSM provides continual involvement with outside entities and stakeholders to ensure they are aware of their involvement in Emergency Response.

GSM has confirmed that outside responders understand their roles in an emergency situation and their willingness to be involved in mock drills.

Emergency Response Practice 7.4: Develop procedures for internal and external emergency notification and reporting.

☐ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

Emergency Response Practice 7.4

Summarise the basis for this Finding/Deficiencies Identified:

GSM 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 Cyanide Emergency Response Plan (CERP) gives details on procedures for notifying management, outside responders and regulatory authorities.

The CERP and Incident Command Staff Roles and Responsibilities documents gives details for contacting the local law enforcement department which includes Jefferson County Sheriff and Jefferson County Local Emergency Planning Committee who would coordinate with the local community.

Emergency Response 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

☐ in substantial compliance with

☐ not in compliance with

Emergency Response Practice 7.5
Summarise the basis for this Finding/Deficiencies Identified:

GSM 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.

The EMS Chemical Spill and Control Plan SOP details specific remediation measures required for solid and liquid cyanide releases. These measures included detailed work procedures for neutralisation with a solution of sodium hypochlorite, clean up requirements, sampling and analysis requirements and how to dispose of arisings. The EMS Chemical Spill and Control Plan SOP states the neutralising chemical sodium hypochlorite or other neutralising chemicals are not to be used if they have the potential to travel to surface water.

The EMS Chemical Spill and Control Plan SOP states that GSM has determined the number of properties that could be affected if the drinking water supply was affected by a cyanide release. They have contacted their local bottled water supplier (Thompson Distribution) to warn them that in the event of such an emergency they would ask them to provide bottled drinking water to the local community.

The Surface and Groundwater Sampling Analysis Plan dated May 2011 is a guide to the standard sampling protocols (sampling and purging methods, parameters, type of containers, preservation, frequency etc.) used at the site. The document presents sampling methods and techniques that are recommended for meeting regulatory requirements for proper water sampling procedure.

Emergency Response Practice 7.6:

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

☑ in full compliance with

The operation is

☐ in substantial compliance with

☐ not in compliance with

Emergency Response Practice 7.6

Summarise the basis for this Finding/Deficiencies Identified:

The site 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.

GSM updates the CERP at regular intervals, at least annually. It was last updated in June 2011.

A live mock drill was conducted on May 5, 2011 which involved a light passenger vehicle colliding with a cyanide tanker truck and included cyanide exposed victims. The incident report included a critique for the exercise and action items most of which have been undertaken. The exception being having a siren to alert all employees in the general office complex of an emergency situation, which is still work in progress.

GSM has a system to review the results of emergency response to incidents and mock emergency drills and update procedures accordingly.
PRINCIPLE 8 – TRAINING
Train Workers and Emergency Response Personnel to Manage Cyanide in a Safe and Environmentally Protective Manner

Training Practice 8.1: Train workers to understand the hazards associated with cyanide use.
☑ in full compliance with
☐ in substantial compliance with
☐ not in compliance with

Training Practice 8.1

Summarise the basis for this Finding/Deficiencies Identified:

GSM 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.

All site personnel are trained in cyanide safety as part of GSM’s Basic Cyanide Awareness Training.

Annual refresher cyanide training is undertaken for all employees and contractors.

All training record sheets are entered into the training matrix.

Training 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
☐ in substantial compliance with
☐ not in compliance with

Training Practice 8.2

Summarise the basis for this Finding/Deficiencies Identified:

GSM 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.

The operation trains workers to undertake cyanide related tasks safely with respect to themselves, their colleagues, the community and the environment.

The training materials identify the elements necessary for the safe performance of each job, based on the GSM’s Standard Operating Procedures. Workers are trained on the equipment available and required to demonstrate competency prior to unsupervised assignment to a task.

Specific task training where cyanide management activities are involved is given by competent workers or supervisors in these departments.

Workers are trained prior to working with cyanide, with assessment undertaken to ensure they understand the requirements.

Refresher training is undertaken annually.

The effectiveness of training is assessed through written tests after the basic cyanide awareness training and Pop Quiz type tests in monthly safety meetings.

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

☒ in full compliance with

☐ in substantial compliance with

☐ not in compliance with

Training Practice 8.3

Summarise the basis for this Finding/Deficiencies Identified:

GSM 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. The main findings are:

Workers and contractors assigned to a specific area, where cyanide is an integral part of the process, such as unloading, mill operations, and maintenance, are trained on the safe use and handling of cyanide which includes being trained in the appropriate emergency response for worker exposure and environmental releases of cyanide.

All employees are trained in cyanide decontamination and first aid procedures.

All employees are trained on the procedures and guidelines outlined in the CERP such as the response to a cyanide spill, release, or emergency. Training also includes the use of the cyanide antidote, SCBA, and other PPE necessary to respond to a cyanide emergency.

Refresher training in cyanide emergency response is undertaken annually.

Emergency response mock drills are undertaken annually, are evaluated and lessons learnt captured and incorporated into the updated procedures.

All training record sheets are retained.
PRINCIPLE 9 – DIALOGUE
Engage in Public Consultation and Disclosure

Dialogue Practice 9.1: Provide stakeholders the opportunity to communicate issues of concern.
- in full compliance with

The operation is
- in substantial compliance with
- not in compliance with

Dialogue Practice 9.1

Summarise the basis for this Finding/Deficiencies Identified:

GSM is in Full Compliance with Standard of Practice 9.1 which requires that the site provide stakeholders the opportunity to communicate issues of concern.

GSM has a number of community engagement initiatives including participation at Community Transition Advisory Committee (CTAC) meetings, site visits, participating in the Jefferson County LEPC and attending other community group meetings where the general public can voice concerns.

Dialogue Practice 9.2: Initiate dialogue describing cyanide management procedures and responsively address identified concerns.
- in full compliance with

The operation is
- in substantial compliance with
- not in compliance with

Dialogue Practice 9.2

Summarise the basis for this Finding/Deficiencies Identified:

GSM 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.

GSM has a number of community engagement initiatives including participation at CTAC meetings, site visits, participating in the Jefferson County LEPC and attending other community groups where the general public can voice concerns.

Dialogue Practice 9.3: Make appropriate operational and environmental information regarding cyanide available to stakeholders.
- in full compliance with

The operation is
- in substantial compliance with
- not in compliance with

Dialogue Practice 9.3

Summarise the basis for this Finding/Deficiencies Identified:

GSM 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.

GSM makes operational and environmental information regarding cyanide available through its website, site visits and in presentations provided to local community groups.
The majority of the local population is literate so written information is considered adequate.

Information regarding cyanide releases is made available through a number of company and official outlets such as the websites, regulatory authorities and CTAC meetings.
Report Signature Page

GOLDER ASSOCIATES (UK) LTD

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Date: 29 November 2011

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