

ERM-West, Inc.
102 West 500 South, Suite 650
Salt Lake City, UT 84101
Telephone: (801) 595-8400
Fax: (801) 595-8484
www.erm.com



**INTERNATIONAL CYANIDE MANAGEMENT CODE
GOLD MINING OPERATION RECERTIFICATION AUDIT
BARRICK HEMLO, CANADA**

SUMMARY REPORT

Submitted to:

*Williams Operating Corporation & DB Operating Corporation
P.O. Bag 500,
Marathon, Ontario, Canada P0T 2CE0*

and

*International Cyanide Management Institute
888 16th Street N.W, Suite 303
Washington, D.C. 20006*

Submitted by:

ERM-West, Inc.
102 West 500 South, Suite 650
Salt Lake City, Utah 84101

February 7, 2014


0174419-5

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

TABLE OF CONTENTS

1. Introduction, Summary, and Attestation	3
2. Location and description of mining and milling operation.....	4
3. Summary Audit Report.....	7
Principle 1 – Production.....	7
Principle 2 - Transportation	8
Principle 3 – Handling and Storage	9
Principle 4 - Operations.....	11
Principle 5 – Decommissioning.....	18
Principle 6 – Worker Safety.....	19
Principle 7 – Emergency Response.....	22
Principle 8 – Training.....	25
Principle 9 – Dialogue.....	27

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

1. INTRODUCTION, SUMMARY, AND ATTESTATION

This summary report has been prepared to meet the requirements and intentions of the International Cyanide Management Institute (ICMI) to demonstrate that following named project has met the obligations in implementing the International Cyanide Management Code (Code).

Name of Project: Barrick Hemlo

Project Owner / Operator: Williams Operating Corporation & DB Operating Corporation

Name of Responsible Manager: Andrew Baumen, General Manager

Address and Contact Information: Williams Operating Corporation & DB Operating Corporation
P.O. Bag 500,
Marathon, Ontario, Canada P0T 2E0

Audit Company: Environmental Resources Management (ERM)

Audit Team:

Lead Auditor: Judy Fedorowick, CEA, EMSLA
Email: judy.fedorowick@erm.com

Gold Mining Technical Expert Auditor: Brent C. Bailey, P.E., CEA
Email: brent.bailey@erm.com


Date of Audit: This recertification audit was conducted June 25-27, 2013.

Auditors Findings:

	<input checked="" type="checkbox"/>	in full compliance with	
Barrick Hemlo Mine	<input type="checkbox"/>	in substantial compliance with	International Cyanide
is	<input type="checkbox"/>	not in compliance with	Management Code

This operation has not experienced compliance problems during previous three-year audit cycle.

Hemlo Mine
Name of Facility


Signature Lead Auditor


February 7, 2014
Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**


Attestation:

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

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

<u>Judy Fedorowick</u> Name of Auditor	 Signature of Lead Auditor	<u>February 7, 2014</u> Date
---	--	---------------------------------

Name and Signature of Other Auditors:

<u>Brent C. Bailey</u> Name of Auditor	 Signature Auditor	<u>February 7, 2014</u> Date
---	--	---------------------------------

2. LOCATION AND DESCRIPTION OF MINING AND MILLING OPERATION

Barrick Hemlo is a combination of two mine properties (David Bell Mine and Williams Mine). All of the major cyanide facilities are associated with the Williams Mine. The David Bell Mine has a paste plant, thickener and associated pipeline system. The operations of the David Bell Mine and Williams Mines are managed as a single operation. The operation refers to itself as Barrick Hemlo (Hemlo). This report refers to the operation as Hemlo. Hemlo is located in the District of Thunder Bay, Bomby Township near the north shore of Lake Superior, at approximately 85o 53' W longitude and 48o 40' N latitude. The site is adjacent to Highway 17, approximately 37 kilometers (km) east of Marathon, 350 km east of Thunder Bay and 430 km northwest of Sault Ste. Marie.

The active cyanide facilities at the Hemlo operation include:

- Grinding Circuit
- Gravity Concentration Circuit
- Pre-Leach Thickener
- Cyanide Storage Tank and Offload Facility
- Cyanide Leach Circuit
- Carbon-In-Pulp (CIP) Circuit

<u>Hemlo Mine</u> Name of Facility	 Signature Lead Auditor	<u>February 7, 2014</u> Date
---------------------------------------	---	---------------------------------

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

- Carbon Strip Circuit
- Barren Solution Tank
- Loaded Solution Tank
- Tailings Pump Box
- Tailing Management System (TMS – includes tailings pond and polishing pond)
- TMS pipeline systems
- Williams Paste Plant
- David Bell Paste Plant


All milling is performed at the Williams Mill. The grinding circuit includes two parallel trains, each comprised of a semi-autogenous grinding (SAG) mill, a ball mill, and primary and secondary cyclones. The gravity concentration circuit in each grinding train employs a Knelson concentrator for gravity gold recovery. The grind slurry enters a large pre-leach thickener at approximately 25 percent solids, and the resulting thickener underflow is transferred to the cyanide leach circuit at approximately 50 percent solids.

The cyanide leach circuit consists of nine leach tanks; however, the operation varies the number used from seven to nine depending on operational needs. Gold is extracted from solution in the CIP circuit, which consists of six tanks. Loaded carbon is stored in two storage vessels. Acid and caustic are used in the carbon strip circuit and the loaded strip solution is pumped to a surge tank prior to entering the electrowinning circuit located within the refinery. Barren strip solution is stored in a surge tank adjacent to the loaded strip solution surge tank. The stripped carbon is reactivated via acid washing and a regeneration kiln.

Tailings from the CIP circuit report to the tailings pump box. Approximately 40 percent of the tailings are pumped to the two paste plants. One paste plant is located at the Williams site and the other at the David Bell site. Each paste plant is a standalone facility enclosed within a building with an adjacent, external thickener tank. Flyash and cement are used to bind the filtered tailings slurry and the final tailings paste is pumped into the underground mine workings as backfill. The remaining 60 percent of the CIP tailings are pumped to the tailings pond via a high-density polyethylene (HDPE) pipe with a varying diameter. The TMS consists of a large impoundment separated into two cells by an internal divider dam. One cell (currently the Williams Pond) receives tailings slurry from the Mill and the filtered tailings solution from the David Bell paste plant. The other cell (currently the David Bell Pond) functions as a polishing pond. The function of each cell (i.e., tailings deposition pond or polishing pond) changes periodically as the tailings management plan requires. Reclaim water from the tailings pond is returned to the Mill for use in the grinding circuit.

Sodium cyanide is delivered in liquid form and is offloaded to the cyanide storage tank located within the Mill building at the Williams site. The grinding and process circuits are also located inside the Mill building, with the exception of the large, 215-ft. diameter pre-leach thickener located on the north side of the Mill building. As mentioned above, the paste plants are located within separate buildings and each plant has a thickener tank located outside. The Williams paste plant building and thickener tank are located just northwest of the Mill building. The David Bell paste plant is within the decommissioned David Bell Mill building located at the David Bell site.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

Weak Acid Dissociable (WAD) cyanide concentrations in the tailings pond (i.e., Williams Pond) reclaim water are above 0.5 milligrams per liter (mg/L), generally ranging between 0.002 and 8 mg/L. Therefore, because reclaim water from the tailings pond is returned to the Mill for use in the grinding circuit, the milling and gravity concentration equipment are considered cyanide facilities under requirements of the International Cyanide Management Code (ICMC).


The Hemlo operation also operates an Effluent Treatment Plant (ETP) at the TMS on a seasonal basis (permitted April through November) to treat water from the polishing pond prior to discharge to the receiving environment (surface water). The ETP is designed to precipitate antimony and heavy metals and to adjust pH levels. Reagents used in the process include ferric sulfate and lime. Hemlo relies on natural degradation of cyanide in the polishing pond, and the water is not specifically treated to reduce cyanide levels; although, the plant includes a destruct circuit, which utilizes hydrogen peroxide and copper sulfate in the event cyanide levels are above the allowable discharge standards. The WAD cyanide concentrations in the ETP feed are consistently below 0.5 mg/L. Therefore, for purposes of this certification audit, the ETP is not considered a cyanide facility, although it is considered in relation to water balance requirements.

Hemlo receives liquid sodium cyanide in specially engineered tanker trucks from Cyanco's Cadillac Facility. The sodium cyanide is delivered by Quality Carrier's Inc. Cyanco and Quality Carriers are signatory to the Code and both companies are certified as compliant with the International Cyanide Management Code (Code). Hemlo stores and manages sodium cyanide in engineered tanks, pipelines and a tailings storage facility that have had appropriate Quality Assurance and Quality Control (QA/QC) during construction. Hemlo employees are trained in cyanide hazards and first aid, first response, emergency response, and specific operational task training. Hemlo facilities are fenced to preclude wildlife and livestock from entering reagent grade cyanide process areas. Hemlo conducts inspections to assure that facilities are functioning as designed and to monitor process solutions. Preventive maintenance programs are in place to assure the continuous operations. Hemlo has approved closure and reclamation plans along with financial assurance to support the appropriate management of cyanide solutions and solids.

Changes to the operation during the past three years include the construction of raises on dams A, B (portion), D, E, and F for the TMS (2012). No other significant changes in the operation or facilities were reported.

The Hemlo operation was found to be in Full Compliance with the International Cyanide Management Code; and this operation has not experienced compliance problems during the previous three-year audit cycle.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

3. SUMMARY AUDIT REPORT

PRINCIPLE 1 - PRODUCTION

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

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

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


Basis for Audit Finding:

Cyanco Canada Inc. (Cyanco) is the cyanide supplier to Hemlo since January 2009. Cyanco was originally certified October 3, 2006, recertified in 2010 (recertification audit conducted August 10-12, and 14, 2009), and recertified a second time July 12, 2013. Liquid cyanide is shipped by rail from Cyanco's production facility in Winnemucca, Nevada to Cadillac, Quebec. In Cadillac the cyanide is transferred to truck trailers and is truck transported to the Hemlo Mine.

The contract between Barrick Gold of North America (Barrick) and Cyanco states that Cyanco shall comply with the ICMC's "Principles and Standards of Practice" during the manufacture, transportation, storage, use and disposal of the product (cyanide) and the supplier shall only deliver product (cyanide) produced in an ICMI Code certified facility.

Cyanco's Winnemucca Production Plant is a Code certified operation as reported on the ICMI website – certified July 12, 2013. The Cyanco Cadillac Facility (Cyanco Sodium Cyanide Transloading Terminal) is a Code certified operation as reported on the ICMI website - certified September 24, 2010.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

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.*

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 2.1**
 not in compliance with

Basis for Audit Finding:

Cyanco Canada Inc. (Cyanco) is the cyanide supplier to Hemlo since January 2009. Cyanco was originally certified October 3, 2006, recertified in 2010 (recertification audit conducted August 10-12, and 14, 2009), and recertified a second time July 12, 2013. Liquid cyanide is shipped by rail from Cyanco's production facility in Winnemucca, Nevada to Cadillac, Quebec. In Cadillac the cyanide is transferred to truck trailers and is truck transported to the Hemlo Mine. (Hemlo has purchased cyanide solely from Cyanco during the recertification audit period – 2010 through 2013.)

Cyanco's Winnemucca Production Plant is a Code certified operation as reported on the ICMI website – certified July 12, 13. The Cyanco Cadillac Facility (Cyanco Sodium Cyanide Transloading Terminal) is a Code certified operation as reported on the ICMI website - certified September 24, 2010.

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 2.2**
 not in compliance with

Basis for Audit Finding:

The cyanide supply contract with Cyanco requires Cyanco to comply with the "Principles and Standards of Practice" of the International Cyanide Management Code during the manufacture, transportation, storage, use and disposal of Product (cyanide). Compliance with the Code requires that the supplier and transporter to conform to specific compliance matters set out in the Code's Cyanide Production and Cyanide Transportation Verification Protocols. These Verification Protocols specifically address packing, labeling, storage, transportation routes, unloading and other requirements transportation requirements

Liquid cyanide is shipped by rail from Cyanco's production facility in Winnemucca, Nevada to Cadillac, Quebec. In Cadillac the cyanide is transferred to truck trailers and is truck transported to the Hemlo Mine.

Hemlo Mine  February 7, 2014
Name of Facility Signature Lead Auditor Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

Cyanco's Winnemucca Production Plant is a Code certified operation as reported on the ICMI website – certified July 12, 13. The Cyanco Cadillac Facility (Cyanco Sodium Cyanide Transloading Terminal) is a Code certified operation as reported on the ICMI website - certified September 24, 2010.

Cyanco transports the liquid cyanide to Cadillac, Quebec via Cyanco's US/Canadian Rail Transport system. Cyanco US/Canadian Transport utilizes the Union Pacific Railroad and the Canadian National Railroad to transport bulk liquid cyanide between Winnemucca and Cadillac. This operation has been certified Code compliant as reported on the ICMI website – certified April 7, 2011.

Quality Carriers Inc. is the trucking company responsible for transportation of the liquid cyanide from Cyanco's Cadillac facility to Hemlo's Williams mine. Quality Carriers is a Code certified operation as reported on the ICMI website – certified September 20, 2010. Based on email correspondence with the ICMI, Quality Carriers has been reaudited and found in full compliance with the Cyanide Code. ICMI has accepted Quality Carrier's audit report as complete and will announce its recertification upon receipt of the final audit documents

The cyanide supply contract between Barrick and Cyanco specifies that Barrick takes ownership of the product at the time the liquid cyanide is delivered into the cyanide storage tank at the mine site. Hemlo has bills of landing showing that Cyanco and Quality Carriers are the sole suppliers and transporters of the cyanide.

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.***

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 3.1**
 not in compliance with

Basis for Audit Finding

The facilities for the unload and storage of cyanide have been designed and constructed in accordance with sound and acceptable engineering practices. The design and construction of the cyanide unload and storage facilities including piping have been completed appropriately as documented in final design and construction drawings prepared and stamped by a licensed engineer. The drawings include concrete and reinforcing layout, concrete elevations and section, steel fabrication details, liquid cyanide storage fabrication details, equipment and piping layout and elevations, piping details, and cyanide supply piping to barren strip area.

Hemlo Mine		February 7, 2014
Name of Facility	Signature Lead Auditor	Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

Liquid cyanide is unloaded into the cyanide storage tank located inside the Williams mill building. The unloading and storage area is located away from public access and surface waters, with the nearest water body being Moose Lake. Between the lake and the Mill Building is a storm water pond that would intercept any spillage from the mill. All personnel with access to the unloading and storage facilities, including contractors receive site-specific health and safety training that includes cyanide hazard awareness. The cyanide unload pad on which the tanker truck parks when unloading liquid cyanide is constructed with cast-in-place reinforced concrete with curbed containment. The concrete unload pad is an adequate barrier to prevent seepage to the subsurface. All leakage on the offload pad and the tank containment area would gravity drain to the leach circuit containment sump via a polyvinyl chloride (PVC) drainpipe pipe (located within a concrete containment structure) connecting the two sumps and ultimately pumped into the process circuit. The tanker unload containment allows containment and recovery of all spilled solution. The Williams cyanide storage tank has level indicators (a pressure transducer and a float) and a high level alarm that prevent the overfilling. In addition, the cyanide levels within the tanks can be monitored from the control room. The cyanide supplier, Cyanco, has remote telemetry monitoring of the cyanide tank level to track cyanide usage and inventory, allowing them to dispatch cyanide loads when needed. The cyanide storage tank is located inside the Williams mill building and has adequate ventilation. The Williams mill building is within the fenced complex of the Williams Mining operation. There are no unsecured valves at the cyanide storage tank or unload system that would allow direct access to the liquid cyanide. Williams has isolated the cyanide storage tank and unload pad away from incompatible chemicals such as acids, strong oxidizers and explosives. No smoking or eating is allowed near the cyanide storage area or in the mill.

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 3.2**
 not in compliance with

Basis for Audit Finding:

Hemlo and the cyanide supplier have developed SOPs to prevent exposures and releases during cyanide unloading. The procedures include a description and photograph of the valves and couplings on the tanker and the unload connections to operate to complete a liquid cyanide unload. The procedures cover the responsibilities for the transporter and the Hemlo operator. Unloading does not occur until a Hemlo operator is present to observe compliance with the PPE requirements, truck parking and chocking, and to unlock the unload piping. Both the transporter and the Hemlo operator check to confirm that the storage has sufficient capacity for the unload. The Hemlo operator is trained in the transporter PPE requirements, procedures, and emergency shut off locations. The transporter and the Hemlo operator have access to PPE, cyanide antidote and oxygen in the case of an emergency. The Hemlo operator observes the entire offload event including the disconnection upon completion of the offload.

Hemlo only receives liquid cyanide in tank trucks, and therefore waste management of used packaging or empty drums is not a concern.

Hemlo Mine  February 7, 2014
Name of Facility Signature Lead Auditor Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

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 utilizing contingency planning and inspection and preventive maintenance procedures.

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 4.1**
 not in compliance with

Basis for Audit Finding:


The Hemlo operation has developed written management, operating and contingency plans and procedures for all cyanide facilities at the Williams and David Bell operations. The operating plans and procedures developed and implemented by Hemlo, which include task-specific SOPs and procedures to identify and evaluate operational changes, cover safe operation and management of the facilities. Additionally, Hemlo provides basic and specialty Common Core training modules to all Mill and process circuit operators, which provides the procedures that workers follow for the safe and proper operation of the Mill and process area equipment.

Hemlo has implemented inspection programs for cyanide facilities at the Williams and David Bell operations. These inspections cover the cyanide offload area, leach circuit, CIP circuit and carbon strip circuit, and include visual inspections of reagent pumps, process tanks, and piping for leaks and signs of corrosion, as well as containment areas. In addition to the daily process area inspections, safety inspections of the cyanide offload facility are conducted upon each delivery event. Hemlo also conducts routine inspections of the tailings systems and performs wildlife inspections daily, at minimum. The combination of inspections performed by operations, maintenance and safety personnel adequately encompass the cyanide facilities to ensure their safe and environmentally sound operation.

Hemlo has implemented a PM program for critical equipment. The PM schedule provides a listing of the equipment along with the planned time for maintenance. The PM system is managed using Oracle® software, which automatically produces PM work orders on an established schedule.

The Hemlo operation maintains two diesel power generators on site. The primary generator is located in the Mill building and a secondary generator is located at the tailings impoundment. The generator located in the Mill is capable of powering all critical process equipment during primary power outages.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 4.2**
 not in compliance with

Basis for Audit Finding:

The Hemlo operation has implemented a continuous cyanide reduction program to optimize the use of cyanide and to control WAD cyanide concentrations discharged to the tailings pond. The end of pipe (end spill) target concentration at the discharge to the tailings pond is less than (<) 50 mg/L WAD cyanide. Hemlo uses an automated online cyanide monitor and controller to regulate, and minimize, cyanide addition at the leach circuit and also performs manual titrations every two hours, to supplement data generated by the online system.


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

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

Basis for Audit Finding:

Hemlo has developed a comprehensive, probabilistic water balance model, using Microsoft Excel[®] software, which tracks water flow throughout the engineered water management facilities at the Williams and David Bell sites, including the mines, Mill complex, and the tailings impoundment. Hemlo uses the 1:10-year wet runoff event to forecast water management requirements although the water balance model can be used to evaluate conditions for variable storm events as well. The design maximum operating water level in the TMS ponds is three meters below the embankment crests to allow for retention of a 100 year, 24-hour storm event while maintaining 0.5 meters of freeboard. Onsite precipitation data is collected by the Environmental Department and is used to recalibrate the water balance model on a monthly basis.

The operating manual for the tailings facility describes the operating standards and procedures for the transport and containment of tailings, process water recycling, effluents and residues to ensure the economical, safe, and environmentally responsible storage and disposal of tailings and the management of water. Hemlo conducts operational and environmental inspections to evaluate the condition of the entire tailings management system. The Environmental Department inspects the water levels in the tailings facility two times per week, bathymetric surveys are conducted annually, and the design engineer

Hemlo Mine  February 7, 2014
Name of Facility Signature Lead Auditor Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

conducts annual inspections of the facility embankments.

An overflow weir and launder system continuously maintains the solution level in the pre-leach thickener structure at a level approximately 1.5 feet below the top of the concrete ring wall. The overflow system reports to the process water tank located inside the Mill building, which feeds the grinding circuit. If the overflow system were to become blocked, process water would be lost and the grinding mills would shut down.

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 4.4**
 not in compliance with

Basis for Audit Finding:


The tailings impoundment and the pre-leach thickener structure are the only facilities at the Hemlo operation in which open cyanide-bearing solutions are stored. The operation does not have other active solution ponds, open solution channels, or sumps. In 2012 and 2013 there were no detectable concentrations of cyanide above 50 mg/L at the tailings discharge pipe. In 2010 and 2011 there were 2 and 4 incidences respectively where the 50 mg/L limit were exceeded; however the average end spill concentration was below 50 mg/L for both these years. When a concentration exceeding 50 mg/L was detected, additional sampling was immediately conducted and showed concentrations below 50 mg/L within one to two days. The tailings impoundment is approximately 344 hectares with a large pool and has the capability to assimilate short term elevated levels of WAD Cyanide in the tails.

Hemlo manages its cyanide addition rates at the cyanide leach circuit to optimize cyanide use while maintaining WAD cyanide concentrations below 50 mg/L in the tailings management pond. Dilution water is added at the final tailings pump box to further lower cyanide concentrations in the tailings stream, if necessary. Since WAD cyanide concentrations are maintained below 50 mg/L in the TMS, no other protective measures for wildlife have been implemented.

The sole source of water introduced into the pre-leach thickener structure is reclaim water from the TMS, which is also used in the grinding mill. WAD cyanide concentrations in the TMS reclaim water are well below 50 mg/L. Therefore wildlife protective measures have not been implemented at the structure.

The tailings impoundment and related systems are inspected on a daily basis and site-wide wildlife monitoring is conducted four times daily. Field personnel are trained to report wildlife observances according to the Hemlo Wildlife Management Procedure.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 4.5**
 not in compliance with

Basis for Audit Finding:

The Hemlo operation operates an Effluent Treatment Plant (ETP) at the tailings facility on a seasonal basis (permitted April through November) to treat water from the polishing pond prior to discharge to the receiving environment (surface water). The plant is designed to precipitate antimony and heavy metals and to adjust pH levels and water is not specifically treated to reduce cyanide levels; although, the plant includes a destruct circuit, which utilizes hydrogen peroxide and copper sulfate in the event cyanide levels are above the allowable discharge standards. Samples are taken three times each week during the treatment season according to Hemlo's Industrial Sewage Works Certificate of Approval with the Ontario Ministry of Environment (MOE).


Effluent from the ETP is discharged to an ephemeral stream that drains to Frank Lake (the receiving water body downstream of the end-of-pipe discharge point). Water quality at Frank Lake is sampled four times each year (March, May, August, and October). End-of-pipe WAD cyanide concentrations for the ETP effluent for 2010, 2011, and 2012 were all below 0.5 mg/L. WAD cyanide; and Total cyanide concentrations at Frank Lake were 0.002 mg/L for all sampling events in 2010, 2011, and 2012. The Hemlo operation does not have an indirect discharge of cyanide solutions to surface waters and is not subject to a designated beneficial use for surface water. The quarterly, cyanide samples are sent to a certified outside laboratory (ALS Laboratory Group) in Thunder Bay, Ontario for cyanide analyses.

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 4.6**
 not in compliance with

Basis for Audit Finding:

The Hemlo tailings facility consists of a large impoundment separated into two cells by an internal divider dam. One cell receives tailings slurry from the Mill and the filtered tailings solution from the David Bell paste plant. The other cell functions as a polishing pond. The facility is designed, constructed, and operated to prevent seepage through the dam and foundations. The containment embankments are constructed with a low permeability compacted till core. The divider dam separating the tailings pond and the polishing pond is a permeable structure. Collector dikes and seepage collection sumps are located along the perimeter of the facility at the downstream toes of the containment

Hemlo Mine  February 7, 2014
Name of Facility Signature Lead Auditor Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

embankments. The tailings slurry delivery and water reclaim pipelines are constructed of HDPE material and are predominately located above ground to facilitate regular inspections. A series of catch basins and dump ponds exist along the tailings pipeline corridors to collect and control inadvertent pipeline releases or leakage.


Hemlo conducts regular monitoring of the tailings pond water levels and volumes to ensure that the operating criteria are being met. In addition, regular monitoring of groundwater quality is conducted to ensure that the facility is functioning as designed and protective of the environment. Water quality data for 2010 through 2012 demonstrated that WAD, Total, and Free cyanide concentrations in monitoring wells were below the detection limits (i.e., <0.002 mg/L WAD and Total, and <0.005 mg/L Free). There are no regulatory water quality standards for cyanide in Ontario, nor are there identified beneficial uses of groundwater for the Hemlo operation. However, Hemlo compares the measured groundwater quality with various Ministry of Environment Standards (guidelines). The Summary and Conclusions of "2010-2012 Groundwater Monitoring Report CofA3263 7TTP8A" Stantec, April 2013) did not identify any exceedances for cyanide in any of the monitoring wells.

The 215-ft diameter pre-leach thickener has concrete walls (ring beam) and a floor constructed of two layers of compacted sand with a 1-mm thick HDPE geomembrane placed between the upper and lower sand layers. The floor system is supported by compacted rockfill, sloped to the center. The entire structure is partially embedded in rockfill with approximately two-thirds of the concrete ring wall exposed. Therefore, this large structure essentially functions as a synthetic-lined pond. The physical integrity of the facility is inspected regularly and an overflow weir and launder system continuously maintains the solution level in the pre-leach thickener structure at a level approximately 1.5 feet below the top of the concrete ring wall. The facility does not employ a leak detection system and Hemlo does not conduct groundwater monitoring directly downgradient of the structure.

Approximately one-third of the mill tailings are sent to the Williams and David Bell paste plants to produce backfill for ground control in the underground mine workings. Prior to June 2007, Williams treated paste with admixture (ferrous sulfate and copper sulfate) to create a chemically stable metal-cyanide complex. In May 2007, the role of admixture in stabilizing cyanide came under scrutiny. Based on the pH-dependent chemistry and the caustic nature inherent to the paste, it was theorized that the risk of HCN release would be unlikely in the absence of admixture. An assessment was conducted to verify these assumptions and at no time did HCN levels meet or exceed 4.7 ppm. Sixteen (16) of 29 gravimetric sample results were returned below lab detection limits.

Hemlo also conducts groundwater monitoring throughout the property. According to data presented in the 2010 through 2012 monitoring programs (issued in 2013) seepage has not caused cyanide concentrations in groundwater to rise above laboratory detection limits and no remedial activity is currently required.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 4.7**
 not in compliance with

Basis for Audit Finding

Cyanide storage and process tanks at the Williams operation are located inside buildings within concrete secondary containment (concrete floors and stem walls). A large pre-leach thickener is located outside, on the north side of the Mill building. The Williams and David Bell paste plant facilities are located inside individual buildings within concrete secondary containment (concrete floors and stem walls). The paste plant thickener tanks are located outside of each plant. Stormwater controls and sedimentation ponds provide secondary containment for the pre-leach and paste plant thickeners. The Williams paste plant thickener has a concrete ring beam foundation with a leak detection and recovery system installed. The foundations for all other process tanks containing cyanide solution and slurry provide an impermeable barrier between the tank bottoms and the ground. Secondary containments for cyanide process tanks within the process buildings are sized to contain a volume greater than that of the largest tank within the containment and any piping draining back to the tank. The ponds, which provide secondary containment for the large thickeners are adequate to contain the volume and design storm event. The pond at the Williams site incorporates a pumping system, to provide additional capacity to account for the design storm event.

The concrete secondary containments provided for the cyanide process tanks in the Mill building and the paste plants have concrete floor sumps with dedicated pumps to collect and remove cyanide solution and slurry spillage for return to the process circuits. The Hemlo Spill Prevention and Contingency Program include a specific procedure for the sampling and remediation of contaminated soil to prevent adverse impacts on surface water or groundwater. The procedure also provides instructions for the proper disposal of cyanide-contaminated soil, which include returning the material to the Mill process or placing it in tailings facility. Hemlo prohibits the use of the sediment ponds at the Williams and David Bell sites for containment of material from the paste plant thickeners except in emergency situations.

Hemlo has constructed cyanide process pipelines with spill prevention and containment measures to collect leaks and prevent releases. Leak detection measures implemented for the tailings pipelines include a differential flow alarm system. Hemlo implemented a pipe-in-pipe system along a portion of the pipeline corridor between the Mill and the tailings facility where it runs alongside an environmentally sensitive area. Hemlo has also implemented a robust inspection program along the pipeline corridors. The corridors are patrolled and inspected daily. Based on the physical controls and inspection program implemented by Hemlo, adequate spill prevention and containment measures are provided for the tailings pipeline system.

Hemlo uses steel, HDPE and PVC pipelines for conveyance of cyanide solutions and slurries. All

Hemlo Mine		February 7, 2014
Name of Facility	Signature Lead Auditor	Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

cyanide storage and process tanks are steel. These materials are compatible with cyanide and high pH solutions.

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

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

Basis for Audit Finding:

Hemlo has QA/QC programs for construction of new facilities and modifications to existing facilities; and QA/QC documentation exists for existing, constructed cyanide facilities as well. Evaluations and reports of the cyanide facilities concluded they have been constructed and are operated in general accordance with industry standards of practice and care. The reports and documents have been prepared by qualified professionals.

During 2012, raises on TMS dams A, B (portion), D, E, and F were constructed. QA/QC was provided by Golder Associates. At the time of the 2013 Recertification Audit the final construction report was not available; however, the as-built drawings were available and these were reviewed.

The 2013 Recertification Audit verified that all of the QA/QC documents are being maintained on site and are available for review

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 4.9**
 not in compliance with

Basis for Audit Finding

Hemlo has prepared and implemented written standard procedures for monitoring activities to evaluate the effects of cyanide use on wildlife, surface water and groundwater quality. The environmental programs have been prepared, approved and implemented by qualified professionals and include all appropriate sampling and analysis documentation. Review of field sampling forms, chain of custody and quality assurance data was completed.

Hemlo conducts monitoring at frequencies adequate to characterize the surface water and groundwater quality and wildlife mortalities. WAD cyanide concentrations for the ETP effluent are monitored over

Hemlo Mine  February 7, 2014
Name of Facility Signature Lead Auditor Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

each treatment season and water quality at Frank Lake (receiving water) is sampled four times each year. Hemlo conducts surface water sampling for cyanide monthly and quarterly at numerous monitoring locations site wide, including two monitoring points located immediately downgradient of the tailings facility embankments. Hemlo conducts semiannual monitoring of groundwater quality at numerous groundwater wells surrounding the tailings impoundment. Wildlife monitoring is integrated into the daily inspections performed at the tailings facility and field personnel are trained to report wildlife observances.

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.*


The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 5.1**
 not in compliance with

Basis for Audit Finding:

Hemlo has developed written plans and procedures to decommission their cyanide facilities at the cessation of operations. Hemlo has two separate closure plans, one for David Bell and another for the Williams Mine. The Williams Operating Corporation Mine Closure Plan includes management of cyanide solutions, rinsing and disposal of piping, tanks and other equipment and collection and control of seepage. Both plans include a schedule of closure activities. The schedule is described in yearly increments starting within one year of a decision to commence close out.

Ontario Ministry of Northern Development and Mines requires that mine closure liabilities be externally reevaluated with every process modification. Barrick internally requires the closure plan and closure costs to be updated every year as part of its internal accounting policies. The policy establishes requirements and guidelines for Provisions for Environmental Rehabilitation (PER) and Asset Retirement Cost (ARC) for the Barrick operations.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 5.2**
 not in compliance with

Basis for Audit Finding

Hemlo has developed a cost estimate for the funding of third party implementation of the decommissioning activities for Hemlo Mines. The cost estimates have been reviewed and approved by the MNDM. Hemlo has established approved financial mechanisms to cover the estimated costs for cyanide related decommissioning activities.

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 eliminate, reduce and control them.*


The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 6.1**
 not in compliance with

Basis for Audit Finding:

Cyanide monitoring control programs (documents dated October 2012) frame the overall approach for minimizing employee exposure to cyanide through identification, and measures to eliminate, reduce or control possible scenarios. This framework document outlines the sources and engineering/administrative control programs, overall work practices, use of PPE, mapping of HCN limits, exposure investigations, training responsibilities and overall management responsibilities.

In addition, Hemlo has developed written Standard Operating Procedures (SOPs) and Operating Plans that describe how cyanide related tasks are performed. These plans and procedures cover the safe operation of the entire cyanide management facilities at the Williams and David Bell operations. Individual task specific SOPs provide details for safe operation of cyanide equipment, PPE requirements and inspection requirements. Hemlo has also signage for PPE requirements located at the entrances of the process areas. In addition, cyanide training materials discuss PPE requirements.

Barrick has a Management of Change (MOC) Procedure that includes the methods to be used to manage changes at all Barrick Gold operations and sites. The procedure includes minimum standards to ensure

Hemlo Mine  February 7, 2014
Name of Facility Signature Lead Auditor Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

changes that impact safety, health, environment or productivity are identified, assessed, managed and appropriately communicated to all affected personnel. The MOC requires a functional area review that requires completion of a health impacts questionnaire where cyanide management can be indicated as a trigger to be assessed in the MOC and focused risk assessment (FRA). Changes are communicated to the workforce and training requirements updated where necessary. Hemlo has safety meetings to provide information and training to employees as well as solicit input from employees on worker safety issues.

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 6.2**
 not in compliance with

Basis for Audit Finding:


Hemlo has determined the appropriate pH for limiting the evolution of hydrogen cyanide gas (HCN). The pH is monitored on a regular basis to maintain its concentration as recommended in the operating plans. Daily pH logs were reviewed to verify compliance. Fixed HCN monitors are installed in areas of potential exposure to cyanide. In addition, Hemlo requires the use of portable HCN meters to conduct work in areas where cyanide is present or for certain tasks. For example, prior to maintenance work or confined space entry, work areas are checked for HCN concentrations with a portable HCN meters. In addition Hemlo reviews cyanide monitoring data frequently to determine if additional tasks or stationary monitoring equipment should be installed.

The alarm levels for the HCN meters (fixed and portable) are set at 4.2 ppm low level alarm and 4.7 ppm high level alarm. Low level alarms require review and possible investigation and high level alarms require evacuation from the area and investigation. In addition to an audible alarm, there are warning lights and an alarm display on the control room. HCN monitors are maintained, calibrated and inspected as recommended by the manufacturer.

Warning signs are in areas where cyanide is used to alert workers that cyanide is present, that smoking, open flames, eating and drinking are not allowed and that the necessary cyanide-specific PPE must be worn. Pipes carrying cyanide are marked and the direction of flow is indicated with arrows on the pipe. Signage for confined spaces at the tank entry points has also been placed.

Showers, low-pressure eye wash stations and non-acidic sodium bicarbonate fire extinguishers are located at strategic locations throughout the operation and are maintained, inspected and tested on a regular basis. MSDS are available through the Canadian Centre for Occupational Health and Safety website or in hard copy from Security. The MSDS and first aid procedures are in English, the language of the workforce. Hemlo has and implements procedures for accident and incident investigations. These procedures include actions to determine the reason why the accident/incident occurred, and identify the corrective actions and/or controls to take to prevent similar occurrences in the future.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 6.3**
 not in compliance with

Basis for Audit Finding:

Due to recent legislative changes, amyl nitrate as an anti-dote is no longer available in Ontario and the site has switched to the use of oxygen delivery as the primary response to exposure followed by the use of a CYANOKit consisting of B-12 (hydroxocobalamin) that must be given intravenously. The kit requires immediate provision of oxygen followed by the intravenous in the CYANOKits. CYANOKits are located at the first aid station near security, and in the emergency response vehicle (ERV). Oxygen is also available at these stations and in the mill at designated first aid stations. All Mill employees have been trained in the use of oxygen delivery. In addition, Hemlo has a telephone and alarm system in the offloading area. Automated External Defibrillators (AED)) are also located in the nursing station and in the ERV. All operators working with cyanide carry a radio to notify the control room or their supervisor in case of an emergency


Hemlo has developed written emergency response plans for cyanide exposures. These plans include emergency actions for HCN Elevated Levels, PPE, First Aid for Cyanide Poisoning including the provision of oxygen, Decontamination Procedures, Major Releases of Liquid, Transportation Events, Offsite and Onsite, Releases during Fire and Explosion Events, Pipe, Tank and Ruptures, and Overflow of Ponds and Impoundment Areas. The plan also includes emergency contact information, accounting for employees and mill evacuation.

Hemlo has a trained and equipped Emergency Response Team (ERT). In addition, Hemlo has an on-site medical unit that is staffed with a nurse practitioner and a nurse. The nurse practitioner is qualified to provide medical/emergency assistance including the intravenous for the CYANOKit.

If an emergency occurs a call for an ambulance is immediately placed and the emergency response vehicle (ERV) is deployed. An advanced Medical First Responder (usually a Security Person and/or Occupational Health Nurse) will be contacted to assist with care and transfer of the patient to the ERV and then taken to the security gate where transfer to Williams Memorial General Hospital (in Marathon Ontario_ Ambulance Personnel will be made. The transfer from the site ERV to the Marathon Ambulance will be made on site and a First Responder will accompany the patient to the hospital.

Hemlo has been involved with Hospital staff regarding cyanide exposure awareness including providing a CYANOKit to the Hospital and training of emergency care workers on its use. Based on the legal system in Canada which provides free basic medical care, the local hospital is obligated to treat all patients without exception and therefore emphasis has been more placed on informing staff of the response requirements to cyanide exposures. There is also a letter of agreement between Hemlo and the Hospital stating that outlines formal arrangements for assistance.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

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.

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 7.1**
 not in compliance with

Basis for Audit Finding:

Hemlo has developed several plans and SOPs that address emergency response to potential accidental releases of cyanide. Hemlo plans contain procedures for potential scenarios such as: 1) cyanide intoxication; 2) accidents during cyanide transportation; 3) releases during offloading; 4) release of cyanide during fires and explosions; 5) pipe, valve or tank ruptures; 6) overtopping of ponds and impoundments; 7) power failure; 8) uncontrolled seepage; 9) tailings impoundment failure; 10) cyanide spill control and clean-up; and 11) decontamination and emergency evacuation.


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

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

Basis for Audit Finding:

Hemlo has involved its workforce and stakeholders in the emergency response planning through safety meetings and mock drills. Hemlo also meets with stakeholders to discuss its emergency response planning. Hemlo conducted a meeting with representatives of the Wilson Memorial General Hospital, the Marathon Fire Department, the Ontario Provincial Police (OPP), and the Marathon ambulance. These agencies were actively involved in the mock drill that was conducted in 2010 and were communicated with during the mock spill in 2012. Hemlo sponsors and conducts "Communities of Interest Meetings" with the participation of local communities. These meetings are conducted periodically and members of the general public and government leaders are encouraged to attend and discuss issues related to the mining operation including the use of cyanide at the mine site and the emergency response plans.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 7.3**
 not in compliance with

Basis for Audit Finding:

Hemlo has committed in its emergency response plans the necessary emergency response equipment and first aid to manage all cyanide incidents at the operation and to coordinate transportation to the nearest medical facility. The emergency response plans include the anticipated roles and responsibilities of emergency response coordinators as well as an updated list of the members of the ERT. The plans also include call out procedures and 24-hour contact information for the management and emergency control team. Hemlo has a list of its emergency response equipment (e.g., fire, cyanide exposure and spill response equipment). Emergency equipment and supplies are inspected on a regular basis.

Hemlo has its own on-site capabilities for Firefighting, HazMat Clean-up and Medical Emergency. There are records of training for the Wilson Memorial General Hospital located in Marathon, Ontario, in the use of the CYANOkits confirming their involvement in the use of kits should an employee require treatment.

The Marathon ambulance was part of the March 16, 2010 mock drill which involved a cyanide splashing incident at the mill. The drill included decontamination, first aid treatment and transportation of the cyanide intoxicated worker to the hospital. In addition, the 2012 mock spill included initiation of the communication link to external emergency responders.


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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 7.4**
 not in compliance with

Basis for Audit Finding:

The "Surface Emergency Procedures" plan includes procedures and contact information for notifying the management, regulatory agencies (e.g., Ministry of Labor (MOL), Ministry of Natural Resources, Mine Rescuer Officer, Ontario MOE, Environment Canada and other regulatory agencies) and outside response providers (e.g., Marathon Fire Department, Manitouwadge Fire Department, Marathon ambulance, hospital and OPP). The "Surface Emergency Procedures" Plan includes procedures for communication with the media.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

The Contingency Plan for Notification of Downstream Users includes procedures and contact information for notifying the communities of Black River (Heron Bay Reserve and Pukaskwa National Park) and White River, that may be impacted in case of a major spill from the site.

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 7.5**
 not in compliance with

Basis for Audit Finding:

The “Spill Prevention and Contingency Program” requires that immediate measures be taken to shutdown and isolate the source of the spill to minimize the spill quantity. Emergency containment structures would be constructed to minimize the extent of any releases to prevent released material from reaching natural drainages. The spilled solution will be removed and recovered back into the mill process or deposited in the tailings pond, as necessary. Soil samples will be taken following clean up to confirm complete removal of all cyanide contaminated materials. The plan describes what final cyanide concentration will be allowed in residual soil as evidence that the release has been completely cleaned up. Hemlo does not consider the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide that has been released into surface waters.

The “Spill Prevention and Contingency Program” addresses the potential need for environmental monitoring to identify the extent and effect of a cyanide release. The plan includes a sampling protocol for spills to the environment. The protocol includes soils and water sampling procedures, parameters, sampling methodologies and potential sampling schedule and locations.

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

Basis for Audit Finding:

The emergency response plans are reviewed and evaluated annually through the Intellex document review system. Hemlo conducts mock drills on a regular basis to practice and prepare for emergencies and to provide insight into the effectiveness of its emergency response plans. The emergency response plans are also reviewed following any incident or mock drill requiring their implementation.

Hemlo Mine  February 7, 2014
Name of Facility Signature Lead Auditor Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

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.

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 8.1**
 not in compliance with

Basis for Audit Finding:

Hemlo provides initial training and annual refresher training to all employees on Sodium Cyanide Site Awareness. This cyanide training includes Code Compliance requirements, uses of cyanide at Hemlo, location of cyanide, cyanide offloading, physical appearance, cyanide properties, cyanide exposure, precautions, HCN alarms, exposure limits, symptoms of exposure and emergency response. Hemlo retains all cyanide training records for all employees. The training modules have been updated annually since 2010 to provide more in-depth coverage. Training records include the names of the employee and the trainer, the date of training, the topics covered (i.e. the training deck in most cases) and test results demonstrating an understanding of the training.


Standard of Practice 8.2: Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 8.2**
 not in compliance with

Basis for Audit Finding:

In addition to the “Sodium Cyanide Site Awareness Training,” all personnel in job positions that involve the use of cyanide and cyanide management (including offloading, production and maintenance) receive a “Sodium Cyanide Mill Training.” This training is more in-depth and covers where the cyanide is used in the process, physical appearance, cyanide properties, pH and HCN Evolution, cyanide exposure limits, routes of exposures and human effects, HCN monitoring (portable and fixed HCN monitors), HCN monitor alarms, safety showers, cyanide handling and offloading, PPE, leach circuit cyanide addition, maintenance procedures, cyanide SOPs and information, symptoms of exposure, emergency call procedures, first aid response (mild and severe poisoning), cyanide fire and cyanide spill response and

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

clean up. Task-specific training is also provided prior to working with cyanide independently. Task specific training includes cyanide related SOPs and Operating Plans and covers all process circuits and activities. Training elements for each specific job are identified in training materials.

Hemlo requires and provides annual refresher for cyanide management to assure that employees continue to perform their jobs in a safe and environmentally protective manner. In addition, Hemlo discusses cyanide related health and safety issues as well as changes in cyanide management SOPs, if any, at safety meetings.

There are four full time qualified trainers with the training department responsible for delivering training. These individuals are “Train the Trainer – Advanced” certified by North West Training & Development. The task specific training to new operators is provided by various process supervisors/trainers who have several years of experience in the mine process.

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


- The operation is**
- in full compliance with**
 - in substantial compliance with **Standard of Practice 8.3**
 - not in compliance with

Basis for Audit Finding

Prior to 2012 mill employees were designated as first responders and received advanced first aid training. This role was re-assigned to the security department (12 employees that work on shifts) which now acts as first responders. The first aid training certificates for all mill employees will expire while the security departments training will be kept current (this was verified from posted certificates and training records). In addition to first aid training, first responders have AED, HAZMAT Level I and II training, and delivery of oxygen training. Mill employees receive “Annual Refresher Training” on cyanide.

The Emergency Response Coordinators and members of the ERT are trained in the emergency procedures described in the “Surface Emergency Procedures” Plan. This team also acts as the mine rescue team and therefore have additional training associated with this function such as the use of SCBAs, high ropes etc. The training includes responding to elements in the cyanide emergency response plan such as emergency actions for HCN Elevated Levels, PPE, First Aid for Cyanide Poisoning including the Cyanide Antidote Use and Decontamination Procedures, Major Releases of Liquid, Transportation Events, Off Site and On Site, Releases during Fire and Explosion Events, Pipe, Tank and Ruptures, and Overflow of Ponds and Impoundment Areas.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date

**BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT**

PRINCIPLE 9 – DIALOGUE

Engage in public consultation and disclosure.

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

The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 9.1**
 not in compliance with

Basis for Audit Finding:

Hemlo provides many avenues of opportunity for stakeholders to communicate issues of concern regarding the management of cyanide at the mine. Hemlo sponsors and conducts “Communities of Interest Meetings” with the participation of local communities. These meetings are conducted quarterly or as the need arises and members of the general public and government leaders are encouraged to attend and discuss issues related to the mining operation including the use of cyanide.

On a Corporate level Hemlo participates in the Corporate Responsibility Management System (CRMS) for managing COIs. Based on interviews, there have been no complaints from the public regarding cyanide in the last three years.

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

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

Basis for Audit Finding:

Hemlo creates opportunities to interact with stakeholders and provide them with information regarding cyanide management practices and procedures. Hemlo sponsors and conducts “Communities of Interest Meetings” with the participation of local communities. These meetings are conducted quarterly or as the need arises and members of the general public and government leaders are encouraged to attend and discuss issues related to the mining operation including the use of cyanide.

Hemlo has developed a pamphlet on Barrick’s Responsibility Use of Cyanide which is distributed during community meetings. The pamphlet includes Code Certification of Barrick mines, Worker Safety, Training, Manufacture, Transportation, Handling and Storage, Emergency Response, Cyanide and Gold Ore Processes, and Mine Closure.

Hemlo Mine  **February 7, 2014**
Name of Facility Signature Lead Auditor Date

BARRICK HEMLO, ONTARIO
ICMC RECERTIFICATION AUDIT - SUMMARY REPORT

Opportunities for public input were also available during the David Bell Mine Closure Plan consultation period. The presentation on the David Bell Mine Closure Plan included decommissioning of cyanide facilities.

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


The operation is **in full compliance with**
 in substantial compliance with **Standard of Practice 9.3**
 not in compliance with

Basis for Audit Finding:

Hemlo has developed written descriptions of how their activities are conducted and how cyanide is managed, and made these descriptions available to communities and stakeholders. Hemlo has developed a pamphlet on Barrick's Responsibility Use of Cyanide which is distributed during community meetings. The pamphlet includes Code Certification of Barrick mines, Worker Safety, Training, Manufacture, Transportation, Handling and Storage, Emergency Response, Cyanide and Gold Ore Processes, and Mine Closure. Although Ojibway speaking First Nations were identified as local COI, English is the preferred language

There is currently no requirement for Hemlo to report a CN exposure unless it has resulted in a first aid (it would then be recorded in a log book), or a medical aid (at which time it would be reported through the Workmen's Safety Insurance Board and the Ministry of Labour (MOL)). Based on interviews, and a review of documentation listed, there have been no reportable releases or reportable exposures which would have required Hemlo to make information publicly available since the initial certification audit. The "Spill Prevention and Contingency Program" requires the company to report all spills/releases exceeding the reportable quantity and conditions to provincial and federal regulatory agencies (e.g., Ontario MOE, Environment Canada and others) as needed. Spill information reported to Ontario MOE is available upon request to public.

Hemlo Mine
Name of Facility


Signature Lead Auditor

February 7, 2014
Date